JOURNAL.

J G Cooper

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Notes for 1855—

Jan 1st January begins with clear cold weather the storm of last week having ended with the old year. Last night I noticed a close connection between the changes of the moon and the weather as I have in fact often before observed, though any direct influence of these changes must be very doubtful depending as they do, on arbitrary and not on real or natural phenomena. I propose to notice these facts more closely this year—

Moon

Winter Birds

But few species of seabirds remain in the Bay, & of these I cannot now obtain all. The Western Gull still remains & one young bird of this kind has become very familiar—keeping about the brook very near the house where it feeds in company with the fish crows & occasionally a Raven—

Other Birds now seen are Loons 2 sp.? Eagles, Colaptes, Fring. il. Gutt. F. Oregonus Tur. naevius, Parus rufescens Reg. auro cap. A large owl & a hawk sometimes appear about here— Saw a single Trumpeter Swan flying southward one day & a few Brant sometimes come about— Mallards are plenty up the Rivers— Have looked in vain for the Bird mentioned in last months journal

x Sylvicola

Brickellia oblongifolia
Nutt

Chrysopsis villosa
Nutt —

nec Conioselinum ??

Washington Territory – J. Cooper

Cornus pubescens, Nutt. Sylv.

?

no flowers —
Cf. H. cylindrica Dougl.

Washington Territory, Dr Cooper

Jan. 3d Yesterday the sky again clouded over and this morning it began to blow severely from the west, with heavy rain & hail. The tide rose higher than ever & nearly undermined the front of the house. Yesterday it snowed a little in the morning but rained last night. The Bay was nearly as rough here as the ocean in moderate weather.

" 4. Weather clear early in the morning but it became cloudy about noon and threatened snow. Sharp frost last night. To-day a thrush was brought me caught in a house & in the capture its tail was pulled out. It was as large as T. mustelinus and of a dark olive brown color above, white below, breast thickly marked with large brown spots. A few yellowish spots on lower part of neck. I do not find it described in Aud's Syn.*2 — Turdus

" 5. It snowed last night about six in. deep. This morning was clear and very cold. The shore of the Bay froze & soft ice in the edge of water. A flock of Plovers?* appeared on the flats before the house. Towards noon it clouded, & before night began to snow lightly at intervals tho' warmer & thawing after dark.

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*Charadrius Helveticus — *2 ~~T. nanus~~?

Jan. 7th Since the 5th the weather has continued squally & rainy. Last night it blew a hurricane which shook the house like a leaf. To-day continues cloudy with showers & intervals of sunshine. The Birds which [illegible] appeared yesterday & today are frequent the edge of the water feeding probably on the small crustacea & in company with the Ring plover & L. Townsendii. A gull of a new? kind frequents the shore now. It is smaller than L. Occid. & somewhat heavier, with gray [illegible] the young grayish * — [illegible]

8th Weather has become rather calm & rainy since yesterday with a southeast wind. Haskell obtained yesterday a [illegible] which was found dead on shore [illegible]. These have been common since Dec. 1st but very shy. — Harelda glacialis

Also Charad. Helvet. which have only been here since the 1st of month. They frequent the edge of flats & [illegible] in the same way as other shore birds. Their note is a kind of plaintive whistle. [illegible] small sandpipers [illegible] with the [illegible] now in color [illegible].

This morning heard a bird song like a Vireo which I found to be Carpodacus purpureus but could not shoot it. It is the first I have seen here. — Carpodacus purpureus

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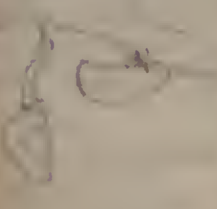
* L. zonorhynchus y'ng

Jan'y

~~10~~ Rain & fogs with a light southerly wind, all [illegible] morning it [illegible] [illegible] Found at [illegible] Pt. a sea [illegible] [illegible] [illegible] [illegible] from the [illegible] of the [illegible] & was [illegible] [illegible] [illegible] & [illegible] [illegible] on the [illegible] [illegible] [illegible] on the beds [illegible] [illegible] [illegible] in the Bay. In [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]



11th

" 12 Yesterday the wind changed to the westward & blew briskly all day. The clouds broke away about noon & after a few showers it became clear. Today the wind was N.E. light & [illegible] the sky clouded only in West. The thrushes have disappeared with this change of weather but more [illegible] come about. I noticed a [illegible] [illegible] of [illegible] in the middle of the Bay —

Haliaet. leucocephalus — Noticed a pair of W. H. Eagles who are preparing to build — The tides are the [illegible] giving the sun off from again [illegible] out today to the further oyster bed

" 14. This morning the sky again clouded over & before night it rained with a S W wind. Air mild — noticed this evening a bat flying about the house. Shot a gull not [illegible] about here lately which is the Larus [illegible] but differs from the description in having an orange spot on bill

Jan'y

16th Yesterday it cleared off in the morning with a W wind & remained clear till night. This morning wind N.E. & sky lightly clouded — changed to S by dark & it began to rain again —

Podiceps [illegible] p. 5 note — Noticed a [illegible] with a black cap & white neck — of large size* & Yesterday [illegible] some mallards & a Scaup duck which all had their stomachs full of [illegible] shells — the latter was very thin.

~~18th~~ 17 Today the tide rose about three inches higher than any time before this winter accompanied by a violent W wind & rough sea. Squalls of Rain & hail occurred every little while during the day & night. Shot a Tel. [illegible] & saw the eagles [illegible]

" 18 Weather much as yesterday but the tide did not rise so high — The hail & snow which fell melt very soon & it does not freeze at night — Saw a black duck? as large as Fulig. fusca — The Indians

Salam ander — attribute great powers to the Newt saying that it if eaten will cause madness & death. Perhaps this is from its [illegible] & eyes with skin like an Indian's

The shore here where the Indians formerly lived is bedded 2 ft. deep with shells of cockle, bones of elk etc, with trees 3 ft in diam. growing over them. I find no remains of old utensils —

* [illegible] Americana? & P. cristatus Bd.

Jany 19th Walked out & shot a hawk which is the young of Buteo Swainsoni or B. insignatus — I found eating a squirrel & at first I thought it was an owl from its flight — Its tail is longer than any other I've seen & ye- Received two letters & 3 books from Baird one Townsend's Narr. in which he notes about 190 sp. of birds found in Oregon in 26 yrs but of course not all collected by him. I have seen the greater part. The weather today is calm but with a light southerly breeze. The B. giant reported to me by the Bay has a lightning [illegible] its neck —

Buteo

Bessie [illegible]

„ 23rd The weather since 19th has been so stormy that I could not go anywhere — Wind continuing Southerly. Today it is cloudy but no rain. The wind blows violently from S.E. — Crossed over to Sandy Hook in a skiff with Mr. Espy — Noticed Brant & sea-ducks on the way *

„ 24th D Today is calm but cloudy & the sky looks like breaking away — Walked out on the Point but shot nothing the Brant being too wild — Noticed meadowlarks, Steller's Jays, Corvus, Turdus, Anthus & a small Hawk probably A. fuscus. These with & bills Certhia, R. T. Hawks, Parus, Reguli, &c are the principal winter residents here.

Cape

Birds

* To day a Grebe was brot my found dead many of them having been killed during the storm. V. [illegible] 122 —

N.B. Moon changed to 1st qr. 24th 5 P.M.

27th Have been camping on the Point since 23rd and hunted thoroughly every day but without getting any of the [illegible] — Today walked over to the Cape and around a circuit of about 12 miles. Saw a B. Tyrann. & A. Cooperi. Noticed as common to be seen along the coast — The Eagles & Buzzards are now changing their adult plumage & the latter are seen of various colors, with white head & tail, mottled or dark brown. The weather has been growing warmer daily with a S.E. wind — Saw today many frogs & Eut. concinn. all active & also a Lizard — In the evening the frogs are piping their pleasant serenade & everything seems like spring. The Evergreen Huckleberry is blossoming (though not fully till May) and the buds of almost all trees are bursting — Yesterday some men arrived from the Chehalis having been a week coming from its head, stopping two days to avoid rain — They report the River very high — also a whale on shore near it which the Indians are cutting up —

Reptile appear

Balaena

„ 28 Fine warm morning with a N.E. wind — Walked up to the cape & prospected some but found very little Gold — Saw Reg. calend. apparently preparing for its summer duties — singing a low but sweet trill as it fluttered about its mate.

Jan'y 29th This morning it is cooler with the wind still from the N.E. Crossed over the Bay to Pt. again — I saw nothing worth noting — The sky begins to be clouded over again —

Heard of a kind of Duck with a gold col'd head & same on wings (as large as a mallard — & seen only —

[illegible] Saw the small Owl mentioned 1st

Found lately a dead wolf — but it seemed to be but half grown and its teeth were not complete —

Feby 10 Since last date I have been so busy with the Schr. A. Crosby & her cargo which arrived on the 30th ult. that I have had no time to go out — Hence I have observed nothing of consequence except about the 1st the Cherry Ameri- cans appeared here in flocks — all of them males? which seem to keep apart from the females in winter —

Feb 1st ○ The weather continued pleasant but with some threatening clouds until the 3d when it rained a little in the evening. Since then it has been mostly clear & pleasant, but yesterday clouded again & rained heavily most of the day — Today it continues raining & blowing hard from the S.E. — The A.C. left on the 6th & the Empire arrived here on the 5th

-9th ☾

* also abundant during spring at the Bay

Feby 14th It has stormed ever since last date until last night when it cleared off cool —

(11th ☾) This morning however it was again overcast with Cirro stratus & cold, with N.E. wind —

In the section of Stony Pt. taken from it it is observed that a dike? of Basalt of the rounded variety is covered by a deposit of Sand & Clay — Next to the rock comes a layer of sandy clay folded to correspond to the surface of the rock

Section of [illegible] in this are pieces of lignite wood — This layer is abruptly cut off by one of horizontal formation with faults & horizontal dips — Beds of ferruginous sand & in some places of coarse gravel are scattered here & there. Lumps of lignite or unchanged wood are also found at all depths mixed with cones & leaves of apparently existing species — In two parts of the bay beds of shells & these broken are found; at Saline Pt. about 5 ft & at Chicomancha R. 10 to 30 ft above the present tides. All except one of these species exist now in this Bay — Bones of Mammalia are found just behind & also agate casts of shells — all probably of recent origin — No entire skeletons are found. At the foot of the cliffs fine particles of Gold mixed in black sand is found but not in quantities enough to pay for collecting — Both are mixed sparsely through the earth forming these cliffs & are washed clear of the clay & lighter sands by the waves —

Journey to the

Feby 22nd
)

The threatened rain came on the 17th with the usual SE wind. It fell heavily for four days & on the 20th eve. cleared off about the time of New Moon with a easterly wind — The tides came very high but not quite so high as at the last new moon — Since then it has remained clear & very cold with N.E. N. & N.W. winds. Ice formed at night & last night ice formed in thick — Have been busy preparing specimens to send to Prof. Baird — & to go away — Very few birds about, none new — Saw Nardosmia palmata in flower (20th) & today Rubus spectabilis. Trillium is also coming up — leaves & flowers both.

" 23d Started about 5½ P.M. to cross the Bay to Barrows on the way to Chehalish R. Weather today fair but cold — frost & ice at night — In the evening clouds passed over from the north but without rain. Wind as usual N–NE.

D

" 24. ~~Left~~ Left [illegible] at 8.40 A.M. & walked up the Beach to Chehalish arriving about 5½ P.M. making the trip about 9 hrs & distance 16 miles. Noticed no new animals. Gulls, Ravens & Eagles — The Coast Pine grows again about 3 miles below Chehalish near the edge of tides — The mouth of the River is about 4½ miles wide & the surf breaks clear

Chehalis River

Feby

across with a flood tide & N wind — Weather clear & wind cold — The land at mouth of Chehalish appears much like that at S.W. Bay but more sandy & barren. The clay cliffs appear on the opposite side — Much black sand is mixed with the beach. After sunset we left in [illegible] canoe & travelled about three miles up the Bay camping on the beach at night. Noticed but few birds in the Bay, the mergansers being most common in flocks.

25th Left camp at 6.10 A.M. & travelled up in a canoe with the tide up 1 hr & then down. The river & scenery resemble very much that of the Willapa, the sandy marshes & prairies & where a section is seen the same clay gravel & sand. Went about 10 miles up to the Pilkinton farm arriving at 9.15 A.M. Here I found Gov. Stevens, Mr. Gibbs, Fords, Simmons & others — & 330 Indians of various tribes. Noticed robins, jays & crows, but few ducks are on the Bay —

26th Weather still very cold & clear with N.E. wind. Remained in camp all day & observed no special animals. The tribes represented are the upper & lower Chehalis, Quinault, Chinook, Cowlitz & a few of other tribes — Nothing was done on account of the absence of the interpreter Col. B. Shaw

Feby 27th

Voyage up the

Today the treaty [illegible] [illegible] by
the Gov & the Indians [illegible]. [illegible]
disposed towards the agreement —
They are given time to consider it —
This morning was cold & clear but
about noon it clouded over & about
night there was a fight [illegible] rain with
SE wind & a much warmer air —
Saw [illegible] Cormorants along the river —

~~March 1st~~ ~~2d~~

The treaty has been discussed every day since last date but is
not yet concluded. The [illegible]
[illegible] Indians do not agree to come
further down than below the mouth
Treaty of Black River, while the Coast tribe
are unwilling to unite with them.
The weather has been showery &
cloudy ever since [illegible] except a short
time last night just after dark
Judge Ford speaks of a kind of
Lamprey eel found high up this river called
white bellied [illegible] of the [illegible]
Also of a kind of fish in the Black
Cyprin- which bites at [illegible] at a hook.
It is like a herring & good to eat
Mitella A white flower [illegible] [illegible]
1854 on Walleys is common & blooming
It is said to have a black [illegible] very
The expedition to Mount [illegible] & Lake
is postponed to next summer
Panther Mr Gibbs says there are no panthers in this country

Mch 3d
O

Chehalis R —

Weather still showery but warm &
[illegible] [illegible] at intervals — Started this
Weather morning from Pilkingtons about 9
o'clock & proceeded up the river —
Arrived about dark at the first stone
Distance [illegible] — called 45 miles from the sea
Up to this point the river is naviga-
Water ble and here the tide ends in summer
tho' the water in front at Pilkingtons
At several points on the river the
bluffs are exposed on the south side
Geology and show a similar formation to that
below those [illegible] S.W. Bay. High hills
are seen at irregular distances on
both sides — The timber is as usual
on the Walleys & Cottonwood commen-
Trees cing about 35 miles above the sea
Alder continues up to the rapids —
Several land slides have lately occurred on these banks. The Wynoochee
Branch comes in about six & the Satsop 3 miles
below here. Both have prairies on them
and these also commence here on Chehalis
There is much tide land somewhat
Marshes wooded on the lower part of this River but this ends about 40 miles up
Here commences sandy bottom land
overflowed in winter but of good quality
Birds Gulls & ducks are common & trout are
Fish jumping in the river

Mch 4th

Chehalis river

Left camp early & continued up the river for about 19 miles camping near Armstrong's mill. — The appearance of the country is similar to that of yesterday but the hills are higher & Ash & maple are common [illegible] replacing [illegible]. — Made a short cut through a beautiful prairie about 2 miles long [illegible] & [illegible]. — Oaks appear here probably the first to be found. Notice a Dentaria in flower & Cress. The river begins to be [illegible] with Islands & Rapids at intervals. The bottom is generally [illegible] & sandy. — Weather rainy & [illegible]

5th Continued up the river for about 13 miles & camped in a fir forest. Weather still rainy & windy — Passed several steep rapids & the whole river is higher & more rapid than before. — The highest spurs of the Coast Range appear along its upper course. — The rock seems to be a kind of hard clay of a red color — The hill side here is steep & covered with fir. The woods at camp East of this resemble those at Vancouver & at Puget Sound. — Heard in the [illegible] a barking sound said to be made by [illegible] —

Distance

Scenery

Farming

Oregon Prairie

Current

Dist.

Weather

River

Mts.

Woods

Sound

to Olympia

6th Weather still raining & more constantly so than yesterday, the wind becoming very strong at night from the S.W. Left camp about 7½ A.M. & arrived at Grand Mound Prairie about 12 M. River rose last night about 1 foot & it needed all our force to stem it. Here the Painted Robin [illegible] in the woods & notice a [illegible] of it like the [illegible] call of a finch. — Observed [illegible] at [illegible] [illegible] exposed at three points today [illegible] formation & at one place a wide white stratum of clay?

The hills are higher perhaps 200 ft. — The Hazel is now blooming — Cornus [illegible] & Douglasii are common since leaving the influence of tide water.

Red, White & Yellow fir are distinguished here by lumbermen. White [illegible] spruce [illegible] up here —

7th Left Grand Mound at 8 & rode to Olympia by noon a distance of 28 miles. — This route was before described & [illegible] differs only in the [illegible] of [illegible] & the [illegible] — Both the Mounds & the results of [illegible] [illegible] in blossom [illegible] flower of [illegible] near Olympia —

Mch 6th

Rain

Dist.

Tumbler

Woodpecker

Growth

Vegeta.

Strati.

Geology

Trees

7th miles

Mounds cause

Mch — At Olympia —

11th The weather continues rainy with
a S.W. wind. Clouds passing over with
[illegible] weather | intervals of sunshine.
Noticed yesterday that [illegible]
[illegible] nearly [illegible] with [illegible]
See here several species of [illegible] to
Birds | [illegible] mentioned in [illegible]
The white flowering [illegible]
along the shore [illegible] seems to
by [illegible] described & allied to [illegible]
It has the [illegible] of [illegible]
& the shrub grows 10 ft high. The
fruit is said to be a black berry.

12th | Left Olympia about 12 M. & got to
Distance | Steilacoom 25 miles in 5½ hours.
[illegible] | Short on the way a [illegible] such
Also | birds were quite common [illegible]
of also Cormorants [illegible] ducks [illegible]
Ducks | [illegible] & a species of Uria [illegible]
Uria | [illegible] [illegible]
[illegible] | [illegible] that I noticed [illegible]
Weather clearing off with a N.E.
wind | wind which became violent [illegible]
[illegible] & increased after dark.
The gravel & sand formation
extends all the way, the cliffs
Geology | becoming higher towards the north.
& | The firs visible are small [illegible]
Trees | ed firs & many are dead [illegible]
& | only having [illegible] to [illegible]
flowers | [illegible] & Fragaria [illegible]
[illegible] flower

Mch — to Seattle —

14th Left Steilacoom this morning in a
whaleboat & a strong S.E. [illegible] blow-
ing with some prospect of rain [illegible]
[illegible] About noon [illegible] came out
Snow | with [illegible] snow [illegible] as large as buck
& | shot and wind & rain continued from
Rain | the same quarter till after dark, we
arriving at Seattle about 9 P.M.
Noticed on the way large flocks of
seabirds but nothing [illegible] at
&c. | Steilacoom. The shore & country
beyond seem very similar to that
above but the land [illegible]
Scenery | [illegible] as we go down the Sound.

15th Slept on board the boat.
Seattle is built on a good site
formed by an island about 80 ft
high [illegible] by the high [illegible]
The mouth of the Duwamish river
River | is about 4 miles South of here and
there are said to be excellent [illegible]
Lands | [illegible] claims for 40 miles up that river.
The scenery is fine & much [illegible]
Scenery | [illegible] that from Steilacoom.
Ravens, fishcrows & [illegible] seem to
Birds | be as familiar in all these coast
towns as the Indians themselves.
Trees | The timber about here consists of
cedars of small size & firs, alder [illegible]
One or two species of [illegible] are caught
Gadus | here in abundance, [illegible]
price of the same fish.

May 16th

From Seattle

There was a heavy white frost the
Frost two last nights but this morning
[illegible] a blue north is [illegible]
from the SE. Yesterday afternoon
[illegible] off [illegible]
Partridges &c I shot four [illegible] & got 3 of them
They [illegible] two species & I
suppose one is O. cristatus which is
smaller & shorter necked than the
other [illegible] the [illegible] of
[illegible]. There are [illegible]
[illegible] of [illegible] that [illegible]
around the boat in numbers [illegible]
are becoming more [illegible]. It's
Remarks [illegible] long neck & large
[illegible] bill [illegible]
[illegible] 12 [illegible]
that of the other species is [illegible]
Left S. [illegible] about 9 a.m. [illegible]
on ebb tide & scarcely any wind
About 1 P.M. a fresh & cold breeze
sprung up from the NE & we kept
[illegible] the East shore [illegible]
Passed several [illegible] cliffs & [illegible]
[illegible] points the general appearance
of the shores & ~~trees~~ continuing the
same as before here — Before
leaving S. a flock of blackbirds
[illegible] Brown (Agelaius ?) came about the [illegible]
[illegible] but [illegible]
the A. Phoeniceus —

17th

Down the Sound

cont. It is a clear fresh afternoon & the
S.S. boat is drawing along [illegible]
with a N wind 2 points off the [illegible]
We are [illegible] a large [illegible] of
Whidby Island which [illegible]
[illegible] pale [illegible] & dark [illegible]
A little to the right the [illegible]
Scenery — peak of Mt. Baker [illegible] the
dark clouds while looking back we
[illegible] Rainier's head [illegible]
sunset each being [illegible] & [illegible] from us
As the [illegible] the sun is just about
to sink behind a heavy [illegible] of
cloudy [illegible] which the [illegible] white
peaks of the Olympic Range [illegible]
like shrouded ghosts at night —
[illegible] the [illegible] & one
[illegible] supplied [illegible] extending
to the Straits of De Fuca, beyond
which lies the Isle of Vancouver
On each side lie the deeply wood
ed shores presenting that [illegible]
[illegible] of green treetops which would
be monotonous unless relieved by
the ever changing outline of long
points & inlets & by the [illegible]
background of snowy peaks
The [illegible] is as it was
as in the [illegible] clear & blue as the
[illegible] Italian skies or the [illegible]
[illegible] beautiful skies of our own
Atlantic coast —

20 Mch 1st ☾

Port Gamble Th

Left our anchorage & going Point
Townsend this about 1 P.M. & [illegible]
the morning. Water [illegible] & found N.
wind blowing almost [illegible]. The
Frost. night was [illegible] [illegible] thick & white
fall of [illegible] late this morning [illegible]
mild & pleasant. About [illegible]
[illegible] we anchored at the Point
miles having made only about 3 miles.
I went ashore & walked several
miles along the beach. On a salt
marsh near here I saw a small
flock of blackbirds which were prob-
Birds ably the A. gubernator? Shot a
[illegible] & saw a large flock of the
[illegible] ducks in a small [illegible].
The shores here [illegible]
but are mostly sandy & the [illegible]
[illegible] of some [illegible] [illegible]
[illegible] full of crystals [illegible] at
C. W. Bay. About 1 P.M. [illegible]
[illegible] & [illegible] N.E. [illegible]
Cormorants large rocks where a flock of Cor-
morants [illegible]. Shot
on the water a Mergulus? (or Auk?)
Continued sailing but [illegible]
& anchored about 10 P.M. within about
10 miles of Port Townsend.

Mch 1st

Port Townsend

Arrived here this morning about 8 A.M.
The night was clear & cold but today it
weather began to be cloudy & rain a little in the south.

After breakfast took my gun & went
up about 3 miles back & hunted about
till 1 P.M. Saw many birds & of more
species than I have ever seen at once
Birds in this territory. These were chiefly of
species before collected. Shot five Zon-
Zon. otrichia? [illegible] three, also one Spinus
And of which I saw several singing in the
trees on a faint air like that of the common
yellow bird. Saw a Swallow – the
Hirund. first this season. Noticed a large num-
ber of ducks & geese of various species –
also Aphelocoma common on the marshes.
Troglod. palustris probably winters as far
north as this as well as Trichas & [illegible].

This town site is a beautiful rolling prairie
Site on with a steep bluff face to the bay & in
front extending around the Point a gravel
bar enclosing a marsh partly filled with
water. On its edges the soil is very rich
& has been cultivated by the Indians who
fence their patches round with gooseberry
& other bushes. On the hill the prairie is
Prairie varied by scattered trees & open woods
the surface undulating in a very pleas-
ing manner. The trees & shrubs are
very similar to those of Vancouver & Olym-
pia. Saw an Erythronium & some other
Flow. flowers as Saxifrages & a yellow Umbellifer –

22 Mch 19th

Port Townsend

[illegible] strongly & a few drops of the
[illegible] SW [illegible]
[illegible] from the North
Walked out to the Point & back through
the woods & prairie a distance of 6 miles
Saw several Pileated woodpeckers but
Birds could not shoot one. Their cry much re-
sembles that of [illegible]. Saw one
23 a Humming Bird (Polytmus Rufus)
Obtained some [illegible] & several spe-
cies of flowers. Heard [illegible] in the
marshes a curious sound like the grunt-
Podiceps Cornutus ing of young pigs & apparently made by
[illegible] but I cannot see what
24th Left P. T. about [illegible] & [illegible]
[illegible] in a canoe to Whidbey Island
Walked across the Island to
[illegible] arriving there at 1 P.M.
Passed through some rolling prairie
& some forest of Fir somewhat burnt
Noticed here a species of Rhododen-
Rhododendron dron which bears purple flowers
The soil seems everywhere very rich
& not very hilly. Obtained no spec-
imens but saw a curious Auk?
with a striped head of several colors
Was busy in the afternoon arrang-
ing [illegible] & [illegible]
not go out with the gun

23

Mch 21st

Penn's Cove

Last night was cold with a thick white
Frost frost. Walked out this morning to the
North shore passing through two small
prairies & which are nearly level & [illegible]
Shells Obtained several shells & a very small
[illegible] of [illegible] on the beach
The cliffs there are high & sandy with
a [illegible] on top of 2 ft deep
The shores are [illegible] with a
few large boulders scattered along the
[illegible] of the water. Noticed a flock of
Birds [illegible] on the [illegible]. In the woods
Trees are Abies Dougl. Thuja G. & [illegible]
Day very [illegible] with a strong wind
22 Weather milder & [illegible]
Rain rain at 3 P.M. on the [illegible] W wind
Walked out & shot several species of
birds [illegible]. The Indians [illegible]
[illegible]
Collected [illegible] B. pinnata?
Botany which are in fruit & the flowers [illegible]
each other very closely a [illegible] perfume
23d Walked out to the west side of the Isle
& remained at the [illegible] — Obtained no
24 D new specimens but observed several
[illegible] birds which seem to be follow-
ing up the flowering of [illegible]
[illegible] very [illegible] & [illegible]
Note Deer, bears, wolves, Raccoons, [illegible] & striped squirrels &
otters are found on this Island. Elk, wild cats, pan-
thers, skunks, hares, gophers, [illegible] are not, tho'
they are on the main only separated about ½ mile
Blue grouse are not though the Ruffed are

Whitby's

Mch 26th Remained at Mr Ebey's all night & this morning walked back to the Cove — made sketches of two views from opposite sides of the Island.

Views

The general surface of it is gently undulating, though higher at some points than others — The shores are mostly bordered by banks 60 or 80 ft high either cut off steep or sloping & covered with trees — At a coal field on the southern end there is a hole which emits sulphureous vapor —

Cliffs

Coal

About 1/3 of the Island is prairie & 12000 acres are taken up in claims.

Land

27th Weather continues dry warm & somewhat clouded for the afternoon lately — Walked to-day over to Mr Ebey's brother's ... Mr Cope's & the ... of the ... Obtained several specimens as per Index — The Magpie I have seen nowhere else — The cliffs on the south side of the coast are about 10 ft high of a hard sandstone almost hard enough for building in some places — The Pipits obtained were mates and I have found the female always hard to get a shot at, or even to see, while the male shows itself on hearing the rustle of feet —

Specimens

Sandstone

Pipits action

Island

Mch 30th I have not been away from the village since last date having letters to attend to. Obtained no specimens except of Plants. The weather which was for some time threatened rain began at night before last and since then we have had several light showers — This occurring so near full moon and after a long spell of dry weather is unusual. The wind has been very slight until the evening of the 27th when it began blowing from the south and has continued since. This morning there was quite a strong breeze driving & partial clearing off —

Rain

The white headed & Oregon sparrows have appeared together — The song of the former was short but sweet & shrill — of the latter faint lisping & unvaried —

Apr 1st ○

Birds

Apr 2d Yesterday I walked across the Island chiefly to obtain some shot my stock being exhausted — Saw no new birds — After dinner walked through a thick grove south of Ebey's & obtained a specimen of ~~Cypripedium~~ Orchis not before seen. The bell was pale with brown stripes & spots, the wings black leafing single, oval.

Orchis

Weather in the morning warm & pleasant with a N.W. wind but a severe squall of wind & rain occurred in the afternoon & lasted about two hours — Stopped all night at Mr Ebey's —

Rain

26

Whitbey's Island

Apr.
4th

Left Ebey's early & walked round
the north side of the Island to Mr
Libbey's & thence across to the cove —
A black species of Uria with white
secondaries & the size of a Pigeon builds
Uria in holes formed in the cliffs near
Grylle the surface of the ground & commonly
in parts where the cliffs are high —
nests Saw several chasing each other about
&c — in the air & now & then plunging in the
water — Finally one darted into a
hole & remained some minutes —
When it emerged it plunged down
the side of the cliff as if shot & then
flew into the water —
Saw along a rocky shore a single

Haematopus as large as a small crow
& with a vermillion bill —
ater in The Spruce grows along the edge of
Margin the cliffs on the north side —
The notes of the bird above were
a low squeaking noise while flying —
That of the Oyster catcher was shrill
& resembled much the cry of the Turn
stone — Its chocolate brown color
Haema- much resembles that of the rocks
topus — where it frequents so that it is scarce-
ly visible while at rest
Weather cleared off about 11 A.M.
weather & the wind came again from the N.W. —

27

Apr.
5th

Walked today several miles along
the shores of the cove & through the
Prairies — Obtained some plants but
Speci- no birds nor did I see any of the
mens latter not before noticed — The cliffs
along part of the shore are composed
Geology of gravel & sand as usual with thin
layers of lignite in them —
The weather today was agreeable
weather with a fresh breeze from the S.E. —
Towards evening it clouded over
a little — Saw a deer, a blue hawk
Animals & various common birds —
It is said that the Magpie was here
Pica last winter which shows a winter mi-
Birds gration to the west — Probably —

6th Walked today across to Libbey's on
the north side to look for Haematopus
Saw one but got no chance to shoot it —
Shot at a deer but too far off — It was ve-
ry leisurely walking along through a
Cervus burnt wood in full view, making not the
Richd slightest noise in stepping until I shot
when it bounded off rapidly — The mor-
ning was warm & clear with W. wind
but about noon it began from the S
weather & about sunset became a perfect tor-
nado — Sky also clouded over with a
light stratum of clouds —

Penns Cove

Apr 6th Weather still threatening after a small shower last night. After-noon I walked out to Lees pass [illegible]

While watching at a small lake near by I observed a Pileated Wood-pecker busied in preparing itself a burrow in a half rotten stump standing on the edge of the lake. It worked intently inside & occasion-ally stuck out its bill filled with chips which it scattered in the air. It was very watchful & seemed to be alone. Towards night went to Libby's prairie where I shot a deer a large buck with the new horns* just appearing. A strong N.W. wind blew in the afternoon & evening.

Picus pileatus nest

7th Remained all night at Libby's & this morning walked down to the beach. I noticed the same Hæmatopus in the same place but could not shoot it. Its notes are loud, short, & repeating. Walked back to the Cove in the afternoon.

Weather warm & pleasant with a N wind.

Very few freshwater mollusca seem to inhabit the lakes here. I obtained a minute Planorbis ~~yesterday~~ and a Physa

Shells

* Its nostrils were full of large larvae (Oestrus)

28 Apr 6th

Perrins Cove

Weather still threatening after a
smart shower last night. After
noon searched out the land for deer
While resting at a small lake
near by I found a Pileated Wood-
Picus pileatus nest — pecker busied in preparing its
a burrow in a half rotten stump
standing on the edge of the lake
It worked entirely inside & occasion-
ally stuck out its bill filled with
chips which it scattered in the air.
It was very watchful & seemed to
be alone. Towards sunset went to
Libby's prairie where I shot a deer
a large buck with the new horns*
just appearing. A strong N.W. wind
blowing the afternoon & evening.

7th Remained all night at Libby's
& this morning walked down to
the beach & noticed the same Hae-
matopus in the same place but
could not shoot it. Its notes are
loud, short & whistling. Walked
back to the Cove in the afternoon
Weather warm & pleasant with
a N. wind.
Very few freshwater mollusca
seem to inhabit the lakes here.
Shells — I obtained a minute Planorbis
~~yesterday~~ and a Physa

* Its nostrils were full of large larvae (Oestrus)

29

Whitting's Island

Apr 8th — Went this morning to visit a lake about
Lake — 2 miles from the head of the Cove where
9th — swans are said to be found at all seasons.
Saw none. but noticed several species
Podiceps Carolin. — of ducks & brant. also a Podiceps Carolin?
Some species of waterfowl (or frog) in
this lake makes a loud & curious noise like
the braying of a jackass — commencing and
Cry — ending with a rapid barking sound.
In the afternoon walked back to Libby's.
A large crowd of Indians (400) were at the
Cove and held meeting twice a day, having
Indian singing — sermons, or discourses of a political kind, &
chanting some simple airs in very perfect time
but without regard to part or harmony.
Weather clear warm & pleasant wind N.W.

11th Have remained at Libby's since last date
& hunted some but without getting any new
species of birds or animals. I find a few
Shells rare — specimens of Physa & Planorbis in some of
the lakes but both seem to be rare.
Sylvia — The summer yellowbirds are now abundant
& all still in winter dress. Have seen several
deer on the prairie but none white as yet
though some are undoubtedly found so.
Pelicans are now sitting. Woodpeckers and
titmice are preparing their burrowed holes.
The meadow larks are probably building
as they have nearly left off singing.
Yesterday & day before we had some E.
weather — & S. wind with squally weather & rain
Today is warm & nearly clear.

Elephants tooth —

Apr 12th Returned to the Cove & in the afternoon worked out botanizing. Obtained no birds (V. Jour.)

Elephas tooth — Yesterday in walking along the beach I found a fossil tooth? probably of some mastodon. Some much larger had been previously found at the same place & sent to Dr. Trask where a figure of it [illegible] pronounced to be "Eleph. Prim.")

They [illegible] among the [illegible] & no other birds are near them.

Weather today clear & warm. Wind S.E. in morning N.W. at dark.

13th Was out all day & obtained some new plants but no birds. Saw several Carpodacus? the male with purple head & the female entirely green.

Carpod. purpur. — One male perched on the top of a high Arbutus & sang in a loud varied & interrupted song like that of a Vireo. (V P. 3.)

Colaptes nest — Several days ago on returning from other trees near by noticed the Colaptes preparing its nest in a dead tree only about 5 ft. from the ground.

Mr Baker returned today from [illegible] more [illegible] than I have ever before seen it.

Day overcast air mild with a fresh N.W. breeze —

16th (

Pigeon & fish hawks —

Apr 17th Have been confined mostly to the house since last date by an inflamed hand. Today walked some miles around the south side of the Cove & obtained some new plants. Afterwards I was surprised by a sudden & loud cry of some bird in distress and on looking saw a small hawk coming

Falco Columb. — to the ground with something in its claws. I seized my gun & shot the murderer & on going to him found that it was a Cooper's hawk with a Colaptes which he still held in the clasp of death though it appeared unhurt & continued its noisy clamour till I released it. Its weight alone was as great as the hawk's & had brought him down.

The Carpodacus are abundant now & I hear every day some new variation of their song all resembling the notes of various flycatchers.

Weather — The weather was pleasant till yesterday when it became overcast early & rained a little in the afternoon with a cold N.W. wind. Today was clear & warmer.

Pandion Haliaetus — Saw today a fish hawk? which appeared smaller & different in color from the common species. Saw it catch a fish in its claws & fly toward the woods with it —

Whitbey's Island

Apr. 19th Yesterday & today were cold & wet with a drizzling rain & N.W. wind but toward this evening it became a little milder & the sun shone awhile.

Finch — Went out today & found a flock of Carpodaci feeding on the seeds of a Cardamine under dead Spirea bushes near the beach — They uttered a faint chirping call note when they were disturbed — Shot two males & three females — They agree very closely in appearance with the C. from Utah described in Cassin — They cannot be C. purpureus [illegible] nor frontalis —

25th This morning early was calm but the wind soon rose from the S & blew till

weather — about 3 P.M. with a rain shower but it then changed to W & N.W. & cleared off for a short time after which it again clouded over & began to rain hard —

Sylvicola coron.? — Shot a Sylv. coron. which I first noticed today; two in different places. They struck me as different from the S. Audubonii & on examination I conclude they must be the former though a new locality. Saw also a male Sparrow Hawk? smaller than the Fem. slate colored & white below with numerous streaks.

Collected many sp. of plants —

Pipilo notes — Pip. Oreg. has a trilling note somewhat like that of Molothrus Pecoris but without an introductory "kluck" (tsee-ee)

Leave Whitbey's Island

Apr. 22. Yesterday it rained all day so that I could go nowhere. At sunset however

Rain — it brightened up & the wind changed from S to N.W.

Today began clear & cool with a N. wind.

west shore — I walked out to the west beach hoping to see the [illegible] & to find some more fossils like that described p. 30. Saw the former bird flying over the water but too far off to shoot at — About noon it began to cloud over again from the W. Saw just before dark two flocks of

Grus Canad. — Cranes all of the gray kind which are the only ones I have seen in this country — Noticed nothing else of interest.

24th D Yesterday was cold & squally with wind from the E & N.W. during the day — Snow fell thick on the Cascade Mts & today the lower ranges covered with trees are quite

Frost — white with it. Slight frost at night —

This morning I started from the Cove in a small Schr for [illegible] — The wind was N.W. all day but light. The Cove is about 5 miles deep & then widens out to the south forming Oak Harbor.

Inlet — The passage south is about 3 miles wide & with straight divided near Skagit Head by Cat Island — The east shore is formed by the I. of [illegible] — Saw very few ducks here mostly of the three black species of Fuligula —

Voyage up Puget Sd

Apr 25th During the night we had a fair wind
& by midnight reached Alki Point
opposite Seattle where we anchored —
This morning the weather was clear
weather & calm but a slight breeze from the
N. soon came up & we started up.
About 12 M. at high water we stopped
Vashon Is. opposite the head of Vashon Island
& here I obtained several specimens of
Plants plants not found on Whidbey but
all seen at Steilacoom. Noticed floating flocks
Larus — of Larus atricilla. Saw on the shore a
Birds bird (Thrush?) & heard ... pusilla
... to be seen —
A large Murex? is found in this channel.
At flood tide we again started and
made about 25 miles before anchoring
opposite Steilacoom about midnight
26th Started again in a calm & rowed up
to Johnson's Pt. where we anchored.
Since leaving the Island I have heard
Tetrao a great many Grouse "tooting" along the
obscurus shores somewhat like a large Pigeon.
The ruffed G. however is said to
drum & this species probably hoots
lately though it is not found in W. T.
Saw many Grouse near the point —
About 1 P.M. it clouded over & a good
weather breeze sprung up from the N. by which
we sailed up rapidly against the tide.
A few drops of rain also fell —

Apr 27th Last evening the wind soon dying away
& the rain commencing we were obliged to
Rain anchor a few miles above the point. Dur-
ing the night it rained some & was calm.
This morning at flood tide we again star-
ted in the calm & rowed nearly up to Olym-
pia, a light N. breeze taking us in there.
This continued all day with frequent &
heavy showers the air very mild & calm —
Shot a Uria — the species mentioned as
Birds common. Saw a great number of Sea ducks & Mergi
at & near Olympia. Noticed yesterday
Natica a large Natica on the sandy beach above
high water apparently forming its nest —
The Cornus, Amelanchier, Pyrus & Ceanothus
Plants are now all in bloom, the two first only
seen since passing the "Narrows" —
28th It was raining & shining alternately all day
with a fresh S. wind — & mild air —
I find that Carpod. before coll. agrees with
see p. 32 C. purpureus of Aud. though very different
from the figure in N. A. B. & is a little
larger. The Uria is U. Grylle common on
Birds the east coast north of U.S. & becomes near-
ly white in winter. — Prof. Baird writes
for more specimens of many species & says
that nearly all the Tufted differ here
from those in the Atlantic — How much?
Mammals are especially wanted and in
fact everything! except some birds —

W. T.

Olympia by land

May 9th — Have been since last date at this place on account of bad weather. There
Rainy has been a constant succession of show-
weather ers with short intervals of sunshine.
This afternoon just before sunset there
was a very fine rainbow, but it soon
began to rain again — Wind S mostly —
Noticed here a pair of Fish Hawks.
Hirundo The W.B. Swallow is now abundant —
bicolor Have been perusing & reading books
relating to the country & its products —
birds Besides the above swallow the princip-
9th & 10th al "town birds" are W.C. Sparrow, [illegible]
Troglod. Amer., Fring. gutt. & F. [illegible]

10th Yesterday the weather cleared off with
a N. wind though it still remained clou-
dy, air cool — Today left Olympia
at 10 A.M. to walk to the Nisqually
woods River. Road for three miles through
woods of the usual large trees, where I
Picus saw a Picus ruber silently flying about.
ruber. Then passed through a large prairie most-
ly uncultivated & bordered with P. contorta
growing much larger & finer than on coast.
Vireo Shot here a Vireo which sang so exactly
solitar. like Carpod. purp. that I thought it that
song bird till I shot it — its song is louder.
After another mile of timber traversed
an undulating prairie thickly covered in some
Hirundo places with Oaks. About these the fine
thalass. green swallows were sporting in flocks of 10 +

to Ft. Nisqually

May 10th + Crossing this prairie 2 miles reached the high
& steep descent into the Nisqually valley —
valley This is here about 3 miles wide with a thick
growth of maples, cedar & poplars along the
trees banks — The Cedars are the largest I ever saw
some measuring 12 ft in Diam. Saw flocks of
Grosbeaks? flying among the Poplars & ut-
tering their loud single whistling call notes.

11th Left Packwoods at 8 A.M. & after a walk of 4
miles arrived at the Nisqually Farm. Prair-
Prairies ies recommenced soon after leaving valley &
was more undulating than on the other side —
Fringil. Noticed several Gold crowned sparrows among the
atricap. scrub oaks. They made no sound but a faint chirp —
At the fort saw numbers of Doves which are
Columba said to have just arrived & do not winter here
Carolin. also numbers of the Emp. Finch, Bluebirds, &c.
In a swamp near here is a deposit of Peat.

12th Walked down to the beach which resembles
beach that all along the Sound. Noticed the Rhus tri-
lobata growing here. The Ceanothus velutinus also
Plants grows here: Rose & both are probably emigrants
from the East side — brought across by some
former water course — Saw skins of the Se-
wellel which Dr Tolmie says is abundant in
Aplodontia all the river bottoms most so in the Cowlitz, &
that formerly all the indians were clothed with its
Leporina skins. Mr Gibbs also saw it near the Snoq. pass.
habits The Indian shepherds have seen it running over
the ground when covered with snow at Nisq. h.

Nisqually Plains

May 14th The weather last week was warm but with flying clouds. 12th sultry in the morn-
Warmth ing — P.M. it clouded over with a S. wind
& thunder was heard. It began to rain late
& continued to pour all day yesterday —
Today it is clear & warm. Left Nisqually
at 10 A.M. & walked mostly through woods
Trichas to Steilacoom — On the way shot a Trichas
Tolmiei Tolmiei & saw another — frequenting the willow
bushes under the Fir trees. The song is short
& faint like that of P. aestiva. Also shot
[illegible] which are now common —
Arrived at S. at 12 M. & remained all
day skinning birds &c. Water very smooth
reflecting the shores & trees distinctly —
15th Left Steilacoom at 9 & walked to [illegible]
arriving at 12 M. Collected here many plants
Plants not before seen. Weather warm cloudy
sky overcast — wind S.E. — Heard along
the banks of lakes a warbler new to me*
The Nisqually Plains are now beautiful.
[illegible] flowers of
Scenery many hues variegate the surface — [illegible]
places from the [illegible] of Ranunculus —
in others bed with the Sorrel which was
introduced about 20 yrs ago by the P.
S. A. Co. & has now driven out every-
thing else in some spots — the ground
being well suited to it — The Oaks are full
in leaf the poplars also & the ash trees
beginning to bud forth —

* [illegible] Cooperi — v. June 7th & Index

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continued

May 20th Since last date I have been confined
to the house by sickness — The weather
has been cloudy & cool — though commonly
better towards evening than morning —
The wind very changeable from N.W. to S.
Picus The collared woodpecker seems to be very
torquatus fearful of the cold not being visible when
the sun is hid by clouds — It differs very much
from all others in its slow sailing flight & not
Habits tapping trees much though it bores holes in
oaks &c to nest in — It most resembles the
Melanerpes group & the Red head species —
Sialia The blue bird here is very silent — I have
song) never heard them sing more than their sim-
ple flying note —
22nd The weather all yesterday was cloudy & to-
day it is the same with some drizzling rain —
Rode yesterday to Steilacoom & back —
Noticed nothing of importance — There are
several plants on these plains, scarce here
which are abundant on the east side of
Plants the mountains — Of these [illegible]
[illegible] which occurs near the mouth
of Nisqually R. & is also accidental near
Oregon City — The Ribes trilobata also occurs
here as well as on the shores of the Col. R. —
There are other rare & herbaceous plants which
also seem to be accidental here — These
facts show some peculiar distributing
cause — probably the course of old streams

Marshes & Lakes

May 23d — Walked out this morning to a small ashtail swamp near by — Shot two birds neither one new — having mistaken both for other species before shooting them — Noticed marsh wrens & blackbirds in the swamp — & heard a swamp sparrow.

Birds

The weather today was cloudy [illegible] & about dusk it began to rain lightly. Last night as well as several before it was clear though cloudy in the day —

Deer — Saw today two deer which seemed to be of the white tailed species — They were feeding in a wheat field about 8 a.m. near where a number of Indians were digging Kamass roots —

24th — Today was warm with a S. wind & [illegible] flying clouds — some sunshine — Walked about several small lakes. Saw a pair of Podiceps Carolin. & heard the male making the loud braying noise before mentioned at Whitney's L. on the E. slope.

Pipilo Oregona young — Saw some young Pipilos just fledged atop a [illegible]. They could fly a short distance & one lit on a twig 4 ft. above the ground.

The pintail duck is said to breed near here about the small lakes, I see none —

Birds scarce — Probably on account of the rainy weather this year I can find but few of the small insectivorous birds — Insects also are scarce comparatively —

Nisqually Plains

May 26th — Yesterday & to day were warm but over cast & the wind continues from the S.

Walked out to various places near by & obtained a few specimens —

Lepus Wash. — The hare which is rare here is said by the Indians to burrow. I saw a hole said to be made by it — The blue bird is now singing its notes differing much from our species & not being very musical. They resemble faintly the Robin & sound as if two different birds were singing at once in two keys —

Sialia occid. — Saw today in a small lake a Loon — very late for them. Skinned a Summer duck & a Redwing both of which agree closely with Aud.

28th — Yesterday it rained heavily nearly all day keeping me to the house where I was busy writing & reading constantly.

Rain — To day it rained some & was cloudy walked out in the afternoon but got nothing of importance — Found a ducks nest with the eggs — the common mallard.

Maps — Have been preparing a map for the physical geography of the country and making notes upon the subject —

Have written to Prof. Baird & for the Klamath region refer to Genl Gibbs article in the Hist. of Indians by Schoolcraft — Part III page 90 —

Strawberries are now ripening —

Nisqually Plains cont.

May 31st — weather — The last two days were cloudy & it rained some mostly at night— Last evening it cleared off bright and to day was warm & clear with a fresh breeze from the West— Have been out daily but obtained no new birds— Observe abundance of frogs of the S.W. Ray species — A

Emys — Larger Emys is common in the lakes— Snakes are very abundant mostly

snake — striped but some Racers & I obtained one Wanona— The fish hawk frequents these lakes at this season— Mt. Rainier was visible for the first time since I have been at this house

June 1st — Went out this morning & shot two specimens. The Picus torquatus resembles other species in its habits unless it may be [illegible]. It is rarely

Picus torquatus — seen or heard tapping trees and is often observed sitting & darting about their tops as if pursuing insects but probably only to show itself. It must feed on small insects found on the branches. The notes more resemble the harsh grating noise of the Jay than any Picus. It however builds in holes bored in the trees— by itself? The Muscic. Traillii

Muscic. Traillii note — has a peculiar three note song mainly uttered.* Saw one to day pursue a King-bird which approached its nest.

*This note much resembles that of the Cowpen but is more faint & lisping.

Collections

June 3rd — To day skinned the two woodpeckers & found in the gizzard of one a large

P. torq. food &c — number of small coleoptera such as are found on the leaves & branches of Oaks. Its gizzard was thicker than in Colaptes and contained also gravel— its salivary glands much smaller— Heard a bird sing-

Icterus — ing & chattering like a species of Oriole.

Rec'd Baird's note of Apr 22nd nothing new to be noticed except to obtain Gophers

The weather yesterday was very warm to day it clouded over & about noon a heavy

Rain — shower fell with thunder & a S. wind.

Do trees grow faster here than in the East?

4th — Yesterday was warm but somewhat cloudy— wind mostly S. This morning is cool & clear with wind N. Walked out for some miles but obtained nothing new—

Pinus Strobus — Found a single Pine (P. Strobus?) on the prairie— said to be plenty in some places near here— In the afternoon while sitting in the house a Flycatcher (or Ind.)

Muscic. verticalis — flew down on the ground in front and I shot it— the first of the species— It made a harsh grating sound when fighting— A man arrived from Fort

snow in Mts — Colvile three days ago reports 12 feet of snow still in the pass of the mountains and the road much injured by floods on this side—

Ornithology &c

June 5th Today was very sultry without any
wind or cloud. Shot an Oriole
the first I have seen — probably the
Icterus Bullockii — same bird heard some days ago —
making a loud chattering noise —
Obtained also a Totanus which appears
to be of the unknown species of Nutt.
Totanus macular. — of which only one was got there —
It is somewhat rare here about the
lakes & rivers — Mr [illegible] says he found
the blackheaded Grosbeak all the
Coccoth. melanoc. — way down to the coast & that it
sings finely (possibly the C. [illegible]
7th Weather today was pleasant with
a light breeze and very few clouds.
Obtained several specimens of birds
Tyrannus Cooperi — none new. The Tyran. Cooperi is com-
mon here & sings a peculiar loud three
note song much like the T. Traillii.
nests — I have found several nests, such as
the Robins, Chipping &c but none new.
An emigrant of '53 tells me that on
Snake River among the Alkaline mar-
White snipe — shes he saw white snipe which seem
to agree with Limosa Edwardsii
of Nutt. II p. 179 — A nest of [illegible]
[illegible]× now has young in it though
Robins are not yet sitting — × The
young sparrows — white crowned Sparrow is feeding its
young but the Chipping sp. hasn't hatched
× Seen fledged on 14th

Collections &c

June 9th Weather continues warm & pleasant with
a refreshing breeze daily from E. or W. —
In the morning I prepared a large specimen
Emys — of Emys caught near here — The general color
is brownish black marked & speckled with irreg-
ular pale olive or yellow spots both on the
shell & limbs — plastron mostly of this color —
In it I found a large number of Eggs of
all sizes from a mustard seed to those ready
for deposit and about 1½ in long by ¾ thick
the ends similar rounded cylindrical.
P.M. Rode in to Steilacoom for letters but
Cicada — got none — A small Cicada is now abundant
& its faint song resembles that of the 17 year
species — It is said that the Mallard Ducks
nests far from the water to prevent the
Mallard nests — young from reaching it too soon — I have
found one nest this year about 300 yds
from water & on top of a high dry mound.
I have however found one on a river bank
10th Walked out & saw several Musc. traillii &
Icter. Bullockii, the last playing & chasing
each other round the oaks — Saw also a pair
Indian Hens — of Indian Hens with a brood of young and
on the same pond a brood of young Mallards
The Linar. Pinus are now abundant on
young — the trees of various kinds & have nearly
all the habits & notes of the Carduelis —
They are still in flocks & I see no signs
of their disposition to build —

Nisqually Plains cont—

June 11th Day clear & warm with S. wind and only clouds in the east & flying over.
Tamias T. Shot a female Tamias which was very fat & larger than the male the first— Its cheek pouches were full
food. of the seeds of a common Ranunculus. Shot also several birds and found a nest of Podiceps Carol.? the same pair before mentioned with 4 eggs & 1 young.
P. Carol. young. Preserved specimens & wrote a full description— Saw yesterday a Cuckoo? which Nuttall says inhabits Oregon—
Coccyzus ?
Noticed a wood Duck with young and found a nest of Sylvia aestiva, the eggs agreeing closely with the Auds. descr.

13th Yesterday rode in to Steilacoom. The day being clear & warm but about 5 P.M. it clouded over and at dusk began to rain continuing heavily all night. The wind was south all day.
Rode back this morning & P.M. went out to collect plants— Eggs
I have seen about these many nests of birds common at home but few pecu-
Nests observed liar to this coast. The female Oriole preserved 11th was evidently building but I could not find its nest.
Young of many species mostly seen in the thickets are now fledged and flying about—

14th ☽

June 15th Yesterday & today were cold and cloudy with strong S. wind— sky black.
Went out some miles but obtained nothing new except an egg & some plants—
Colapt. Mexic young The young of Colap. mexic. now nearly fledged show in the males the red on the cheek & back of head already— They are quite familiar & begin to eat as usual—
A panther was shot yesterday near here
Panther but could not be found in the bushes.
It had sprung at an ox passing by about 12 o'clock M. but though wounded did not attack though it bit itself & ruffled its back—

18th Last Saturday was so cloudy and cold that I did not go out— Yesterday it cleared off warm & now so today with some flying clouds— Wind to the N.—
Went out but saw no new birds— One probably the Oriole is now singing but
Icterus X song & rather rare— its song is something like that of the Robin but is much louder clearer & more varied— A young Goshawk* was shot near here lately & preserved.
Every fine evening the horned Larks
Alauda alpest. song + are heard singing on the ground in large numbers— the notes pretty thrilling & long— continuing to sing until it is dark—
Young Robins & small ground finches & sparrows are now about in abundance

---

* A. atricapillus

June

Nisqually Plains — C —

19th Walked out this morning for several
miles & obtained some specimens of
birds &c but none new — Found a
Sturnella nest. Meadow Larks nest with eggs; built
as usual & the eggs as described — Shot
Anas Carolin. a teal of which 6 pair were in a lake near
but saw no young. The female prob-
ably sitting. The notes ascribed by Nutt-
all to the Black headed Grosbeak are
those probably of the Oriole found here.
It excels any other bird in singing —
weather The weather today was clear but sult-
ry with light N wind about sunset
it began to cloud over from the W.
21st Yesterday was clear & very sultry a few
clouds rising in the W about sunset — Wind
N continued today — This morning was clou-
dy and cooler but about 11 A.M. cleared off —
Found the nest of Lazuli Finch just
Spiza begun in a Mahonia about 4 ft from the
& ground — The foundation is of twigs
nest & strips of ribbon like bark — Also the
nest of Turdus ustul. in a gooseberry
Turdus ustul. thicket on a horizontal branch and con-
nest taining young — It was made like that
v.p. 50 of the Robin but smaller, much neater
& outside covered with moss & leaves —
Both these differ much from Nutt's descr.

June D

22nd This morning was clear & very warm, with
a fresh breeze from the N.W —
Saw a pair of Trich. Tolmiei feeding
Vermi- their young, also of Verm. nigrescens — the
vora — first of this species I have seen here —
nigres. Searched in vain for nests of either —
The latter seem to prefer maple thickets
& are probably common along rivers —
The Trichas frequents the bushes in
Trichas dry woods & resembles a Sylvicola (es-
Tolmiei pecially S. agilis) in its motions & habits.
The female is paler & duller in colors
fem. & has the throat nearly white with dusky
spots.
24th Yesterday & Today were very warm
until this evening when it clouded
up a little & became quite cool — the wind
changing also from N to W — Went in
to the Fort & remained all night
Noticed no new birds etc — The Sparrow
Athene Owl is said to be found in the woods
passerina about evening chasing the bats about —
A Buteo Swainsonii killed by Gibbs
Buteo in Octr. agrees closely with Ps description
Three new species have also been obt-
ained by parties on this coast of Buteo
as mentioned in the Proc. Acad. Phil —
On a small island near Steilacoom
there is said to be a breeding place
for auks & other sea birds —

Nisqually Plains

June 25th Walked out this morning & obtained several specimens of birds & Nests with eggs. The nest of Trichas Tolmiei is
Nest - built in a low alkali bush about a foot
T. Tolmi from the ground carelessly formed of grass & coarse stalks - lined slightly with a few hairs - The eggs are said to
young have been white - I saw the young about half fledged which did not yet show their plumage but had very long legs - One which I shot had in its bill two large flies & a spider to feed them. The Eggs of Spiza are white slightly bluish & very thin shelled. Those I found were half hatched. The nests
p. 48. of Tur. ustul. differ very much in structure & situation but are commonly covered with moss which often grows over.

26th The last two days have been very cloudy with some rain & a S wind - Have been mostly at the Station. Noticed near here about 30 Ravens nearly all young which have collected
Corvus to devour the dead sheep. They have been
Cacalot rarely seen this spring & probably retire to the hills to breed. I saw one nest at Whidbey's Island.
Bombycilla Am. Very few Cedar birds are about here & all I see are in pairs. Today packed my specimens & moved them to Station

28th ○

Olympia &c

Olymp. 30th Last evening at 8 left Steilacoom in a canoe with a white man & two Indians. The sky was clear calm & cool.
time We were 8¼ hours on the way having a strong tide against us most of the way. The moon rose full & bright at 9 H. made the trip quite pleasant, though I did not sleep at all. Daylight appear
night ed about 3 A.M. so that the night was
6 hrs. only about 6 hours long. Saw scarcely any waterbirds - a few Ursae only. Today warm cool & clouded wind W & N. Rec'd Baird's letter of Apr 16th & May 19th. He desires a small Shrew which I have not seen, & Urotrichus.

July 3d Have been since last date packing specimens & medicines preparing to send them off
Packing and to go myself. The weather has been very hot & clear wind mostly N & W.

This morning left town in a wagon & tra
Prairies velled to Goodell's. The Prairies near Ol. are more sandy & barer than farther
Plants off. & the plants much the same as on the Nisqually Plains but grow larger.
Mounds The mounds are most abundant about 10 miles out & thence continue to the Skookum Ch.
cause? Are they not the effect of eddies or "Tide ripples" of a period before the elevation of the land? or rather the departure of the water, for these plains are perfectly level & look as if formerly bordering a large river.

Upper Chehalis –

July 4th Left Goodells at 7 A.M. but mistaking the road I walked about five miles out of my course & did not reach Armstrong's sawmill until dark having travelled about 25 instead of 15 miles –

Distance

Morning overcast but clear & warm after 9 A.M. and through with a fine S breeze –

Plains The gravelly plains continue on each side of Black River for some miles with an interval of about 1 mile wide of excellent alluvial land overflowed until June

soil

This seems to have been formerly the bed of an ancient river as it is lower than the surrounding country & expands into a lake near the Sound – The River is sluggish & black until very near its outlet & does not seem to escape freely being obstructed by a spur of the Black hills – The mounds on its west side about six miles above the Chehalis are about 8 ft. high standing very close together – Along the East side of the Black Hills which is an almost perpendicular bluff granular & rounded masses of Basalt are exposed and there is said to be a good building sandstone? near the mouth of the River – The side of these hills seems as if cut away by fluvial action like those along the Columbia – Did not that river once run north along this coast Range & empty by several mouths into Puget's Sound ?

river bed

Black R.

Basalt

Sandst.

Col. R.

July 5th Rained at intervals all day though the clouds were broken in the afternoon – wind S.W. – Remained at the sawmill waiting for a canoe going down the river – Here found a nest of the Water ouzel containing three young for 2nd brood – It was built under an overhanging Cedar stump at the foot of the dam in a cavity among the roots formed of moss (Hypnum) with a flooring of twigs and completely arched over – The opening was large enough for the hand and the inside very capacious probably to admit both the adult Birds. These birds are very tame and showed no fear while I was examining the nest – The melancholy notes of the Varied Thrush are also heard in these forests now well suited to their dingy & sombre gloom where the sky scarcely reaches –

Cinclus Amer.

nest

habits

Turdus naevius

6th Crossed over the river to start down but had to wait until 3½ P.M. The weather to day was cloudy with a little rain but warm – The prairie here is of about 1500 acres somewhat gravelly & was probably formed by the wash from the plain above – The soil of these prairies improves in descending the river and are subject to partial overflow a few days in winter – The soil of the woods is also good throughout this Coast Region. The Black spruce appears near the mouth of Black River and the Taxifolia species also but the latter does not extend below tide water where the first is most abundant – Went about 10 miles down & camped for the night –

Prairie

soil

Abies Menziesii

Lower Chehalis River —

July 7th Started about 3.45' A.M. & descended the river to within 15 miles of its mouth
Distance reaching the camp at about 5 P.M. —
The weather was clear & cool with some flying clouds. Stopped for about two hours on the way. About sunrise an Indian shot a Beaver in the water
Castor Americ close to the shore — It was a very large one and I skinned it carefully. At
Felis rufus noon he also shot a wild cat upon a floating log near the shore — Saw several broods of young
Mergan young Mergansers now nearly fledged but their wings very small & unable to fly only beating the water to assist their progress which is however quite fast. The scenery on this river has been before described and it much resembles that on the Willopah —

8th Camped at an indian lodge and this morning at 6.40 started for the mouth
Bay — of the bay which we reached at 10 A.M. supposed distance 12 miles — Morning foggy & calm but soon became clear with a fresh north breeze. Started from the point and walked down the beach to
(15 m.) Pearson's Point arriving at 7½ P.M. Noticed on the way a flock of Pelicans & two dead Albatrosses* on the beach —
Carduelis tristis Also saw Carduelis on the thistles — Strawberries are now very abundant on the beach —

*D. nigripes (& D. chlororhynchus ? adult) young of D. brachyurus — Grn.

Shoalwater Bay

July 10th Yesterday was very sultry with a fresh breeze from the west — Crossed the Bay in the morning & was engaged during the day in preparing the Beaver skin and
Collections opening my boxes of collections which had not been sent off though packed Feby 25th — Today made out a list of birds collected & seen by Townsend in
Towns. lists of Birds & Quad. "Oregon" mentioned by Cassin & Audubon as found here or on the N.W. coast — with the quadrupeds found here by Townsend — The latter are 69 of which I have obtained 11 & seen two more — Dr S. got 7 others — The birds are 263 of which I have 111 seen 36 more & Dr S. has 28 others — This afternoon it became cool with a heavy sea fog & southerly wind which continues —

☽ 13th The two last days have been cold & cloudy but without rain. Today left here in a boat for Oysterville where we arrived about noon. Saw only one sea duck in the Bay. At the
Hirundo rustica village ~~two~~ 3 pairs of Barn Swallows have already settled building a nest like a Pewee's on a shelf put up for them — A pair of Fish
Pandion hawks has a nest near here and is constantly fishing in the Bay. A resident tells
nests me that he found a Nighthawk's egg on
Chordeiles — the bare sand of this point & started the bird from it — Larus Belcheri is now quite
Larus Belch. plenty with L. zonorhynchus & L. occidentalis. The first seem young but the other old

56 July 17th

Cape Disappointment —

Have remained at Oysterville since last date settling business — The weather was cloudy & cool until yesterday about noon when it cleared off with a S W wind —

Walked nearly to the end of the Peninsula but obtained only a small species of Sandpiper which is now common along the creeks in parties of 4 or 5 — Saw several Fish hawks nests near the Pt. & about 150 Blue Herons

Tringa Wils.?

Today walked across to the Beach and along it to Pacific where I arrived about 7 P.M. distance 25 miles — Saw another dead albatross & a few Western Gulls — Several flocks of shore birds including Turnstones 2 Plovers & Sandpipers — At the Cape looked for Phalacrocorax resplendens but in vain

Diomed birds

Day foggy with a cold N.W. wind —

19th Yesterday was very sultry so that I did not go from the house — Today cool & pleasant with a N.W. breeze — Crossed over to the cape & walked around its outer side but saw no Cormorants except the common kind — Saw several flocks of Pelicans & Gulls all flying northward — A few ducks & a loon were about the Cape — The small Cod seen last August are now abundant & caught on shore in numbers — The Indians catch numbers of Sturgeon & some salmon yet.

Pelecan passing

Gadus &c

July 20th

Cape Disappointment —

57

This morning cool & foggy with a W wind — Walked to the top of the Cape & after sitting there sometime saw a Cormorant over & light which I knew could not be the common species as it had much white on its flanks — It remained fishing for some time with a Surf Duck — I descended & got a skiff in which I with two others went outside the Point & had hardly passed the end before a flock of about 200 flew off the rocks & away to a distance — From the roughness of the water I could not get a fair aim & shot only one — The rocks were perfectly white with their dung — Shot also at an Aphriza? ! only one I saw — Saw also a flock of Curlews & 2 Brown !

Phal- acrocor. resplend.

Aphriza

21st Morning foggy with light N W wind & mild. Went around the Cape again & having shot at a flock of Cormorants wounding several but got only one which was shot through the heart & Also shot a Gull resembling L. Heermanni but larger — have seen both It also resembled the young of that sp. — These are now flying north in flocks.

Phal

Larus young

There is no appearance of nests or eggs on the rocks where the Cormorants breed & there are no detached rocks fit for their breeding — Otters are common here & make paths up the sides of the Cape from the water — The caves are only occupied by the Cliff swallows —

Lutra Hermsii

22nd))

Astoria O. T.

July 22d Yesterday was pleasant & somewhat
Rain overcast. Went to Flotman's & remain-
ed all day — writing letters &c —
To-day I started in a whaleboat at
Distance P.H. & rowed to Astoria 15 miles
touching at Chinook for letters —
Weather cold & cloudy all day —
Found a letter for Mr. F. telling him
of Capt. R's return with a schooner
which enables me to return to S.W. Bay.
Mr. Wayne has here several specimens
for the S. Inst. among them a fine one
Aplod- of Aplodontia which drowned itself
ontia in a [illegible] set — in the woods —
Large He has also two of Urotrichus? —
25th Yesterday left Astoria in the Sch. Elsie
for the Bay — but the fog being thick we
sail got aground about 8 miles below and were
obliged to lie there for 6 hrs. We then cross-
ed over to Chinook Point & anchored for
the night. This morning at 9½ weighed
& beat down the River with a W wind —
Sky continues overcast but not foggy —
About 12½ passed the Cape and sailed
slowly against a strong S.W. current —
Diomed Saw a few B. F. Albatrosses flying about
but not following us. Their flight was easy
flight & consisted of alternate flaps & sailings —
Saw also a few ducks & Uriae? (brown)

S.W. Bay — 3

July 27th Yesterday we were beating all day against
a N.W. wind & a strong head current —
At dark were off the South channel but
this morning had drifted about 6 miles off —
Anchor Entered at 10 & came to anchor at 12 m.
I crossed immediately to the East side.
Saw an albatross & a flock of Pelicans
Birds with a few Ducks & the brown Uria?
The weather continues clouded in the mor-
ning clearing off in the afternoon, with a
westerly wind prevailing as usual here
at this season — This summer has however
Summer been milder on the coast than the last
and vegetation is more luxuriant —
Aug 15 Have been staying at R's house since last
date & have observed nothing important in
the Nat. Hist. dept. This evening was called
to see a patient at the south end of the Bay
25 m Started at 8½ & went up to South Beach rea-
ching it at 2 A.M. Remained till morning —
16th Rode up the Peninsula to R's in 4 hours —
The shore is low & grassy most of the way
& crossed by two sloughs running from the
Lakes Lakes in the middle — Higher ridges run par-
allel to the beach — some covered with Firs —
Weather continues pleasant & warm with
a N.W. wind & no clouds —
17th Walked round the Is's near the Cape & return-
ed with the mail — Noticed nothing new —

Shoalwater Bay —

Aug 19th Left Wm. about 4 P.M. & Sailed down the Bay arriving at Astoria about 12 o'clock A fog came up in the evening which was wet. Saw only a few Gulls & ducks on the Bay —

21st Sailed down the Bay to Bruceville in a boat 5 hrs — Day warm & clear light wind Saw nothing important. Yesterday I went
Nasselle up the Nasselle R. about 3 miles & returned in the evening — This river is about 1 mile wide at the mouth & the hills come close down on it each side with narrow vallies & little tide land — Saw no birds except some
Merganser flocks of Merganser coming down in the evening —

29th Have been at Pt. since last date & obtained no specimens & have noticed nothing new — There was a fine shower night before last
Rain which cleared off in the morning but the sky still remains overcast in the north — Have rec'd 2 letters from Baird with Proc. Acad. Sci. Philad. containing descr. of Western Rodents
Animals described (Nat.) Tamias Cooperi from top of Cascade Mt & Sciurus Suckleyi from Steilacoom? Dalles & Hesperomys austerus from Spokan Plain — Q. is the 2nd the species of the lower country? One killed here seems to be S. Townsendi — The size seems to decrease in receding from the coast, I see no other difference except in the length of the tail which is variable

Bruceville —

Sept 1st It again began to rain last night & continues to do so at intervals with a fresh south wind.
Totan To day shot a young Totanus of the species supposed new which differs from the adult in
young the shorter bill & different coloring & in size — It was alone at Stony Pt. & tried to hide in running run but uttered no note — as usual Yesterday obtained a Scalops which was on top of the ground trying to burrow in (roots?).
Scalops Calif.? It differs from S. Townsendi in size & smaller fore feet but is probably a young one — *
This species throws up mounds like Gophers —
Flocks of Ducks, Godwits, sandpipers, Pelicans,
Birds & Geese? are beginning to be quite numerous —
3rd This morning the clouds broke up just at flood tide about 1 P.M. & it cleared off with a N.W. wind — Sailed to Bruceville where I arrived at 6 P.M. Saw several flocks of
Birds Pelicans some Sheldrake & Gulls, but shot none — Noticed this morning a large
Anser albifrons flock of W.F. Geese flying Southward probably to some Lake in the hills —
4th Rainy & cloudy but it cleared off at noon —
Lobipes hyperb. Shot a Lobipes of which I saw only four. Also a Red bird — Noticed an E. Lanquia
In the evening watched in vain for deer — both these & Elk are not uncommon here
Sylvia Wilson but are difficult to find & do not come out on the Bayside much —

* S. Californicus?

Peninsula

Sept 6th Walked out today about noon & cross-ed the Peninsula at ½ mile back is a cran-berry marsh about ½ mile wide, then a narrow ridge & a marshy lake, now a-

Lake bout 2 ft. deep. This I headed round at the south end & passed through a wood of small trees about 1½ miles west to the strip of prairie on the beach making the land about 3 miles wide. Then followed the sea beach 2 miles southward to the Portage & returned by it having walked 12 miles —

Noticed scarcely any birds in the

Birds woods, titmice, Jays, & finches being the species & some pelicans & Gulls on the seabeach. There are some pretty good claims in this circuit —

8th Weather continues clear & warm with cool nights & often a fog in the morning —

Noticed yesterday several very large flocks

Geese of Geese flying high towards the Columbia, apparently just come from the north. They begin to come at this time every year — This evening saw some immense

Mergus flocks of ducks flying down to the Bay to feed coming from the Chehalis?

No Pelicans are now in the Bay —

Lepus I can find few signs of Hares on this side — it is doubtful if any exist here. I see the mounds of Gophers? & Moles & today set a trap for them —

Arrival of Str Active

Sept 14th Remain on the Peninsula — weather has been clear & warm with N.W. wind until yesterday when it blew from the S.W. & became foggy — today light clouds —

I have seen no more birds or animals [illegible] now [illegible] migration having scarcely commenced — [illegible] being [illegible] I noticed fox

Fox [illegible] through the ferns & hunt around for some time — I have been trying to catch these on any kind of trap. Today

Char. saw some Sand Plovers [illegible]

Helia [illegible]

Shot & preserved a kind of Indian Pheasant — it proved very good eating —

16th Left the P. this morning & sailed down the Bay to Bruceville where the Str.

Active Active had arrived last Friday —

Yesterday was stormy but today has been warm & clear with a N.W. wind — Observed nothing notable on the way —

17th Went on board the Active and in it up to the entrance of South Bay where she anchored not being able to follow

S. Bay the channel any further — Went ashore soon after — Lieut. Trowbridge is aboard this Str having been engaged in making tidal observations on the Coast of Vancouvers Isle & Cape Flattery —

Sept
28th

Oysterville

The weather has lately been variable & cloudy most of the time. Yesterday & last night it rained hard. Today the wind is west with flying clouds & heavy showers during the day—

Yesterday wounded but lost a large slate col'd hawk probably the Goshawk. Flocks of Geese &c are becoming every day more plenty but most of them fly over. The Snipe & Plovers are also common in flocks. Today saw a large Curlew for the third time in this Bay.

[illegible] atricap.

Numenius long.

Yesterday went around the [illegible] and [illegible] in a whaleboat up the "Nasel" Creek about 5 miles with [illegible] & Capt Russell. Had to wait at the mouth for the tide & did not camp till sunset. Noticed on the way flocks of Mergansers a few Mallards & 2 sp. of Gulls. The stream flows through lowlands very much cut up by sloughs & with large mud flats at the mouth. Shot no game or specimens.

"Nasel"

Birds

This morning about sunrise descended the creek & entered the "Nemah" [illegible] near it. This creek is much [illegible] the other in its higher & more [illegible] lands. Noticed along the [illegible] a Rail bird the first ever seen here— Shot no specimens but got some [illegible]— Weather is now clear warm & wind NW

"Nemah"

lands

Rallus Carolin.

S. W. Bay

Sept
29th

Have been for two days past on shore but have obtained nothing of consequence— The weather has been clear & very warm with southerly & East winds— This morning it is cloudy & foggy— Started early in a boat & after stopping a few minutes in the [illegible] sailed down the Bay to R's house. Arrived slightly [illegible] afternoon. Saw large flocks of Pelicans & Gulls coming into the Bay to escape the storm— Capt. R. has seen a most peculiar [illegible] of shrews in the barn at Cape [illegible] appearance was very familiar—

Birds

Sorex

30th The weather has been cloudy and rainy ever since last date with a S.E. wind & much foggy clouds which were thicker today than before— This evening it cleared off brightly with a light N.E. wind—

Have been staying at R's house & have observed nothing notable except today a Pileated Woodpecker.

P. pileat.

Capt. R. mentions seeing on one of the Islands near Cape Flattery a large bird like an Albatross with white body & black wings—perhaps the Giant Petrel of Southern Seas—

Procell. gigan?

66

Coos Bay to San Francisco

Octr 4th Since last date the weather has been
clear & pleasant — the mornings cool &
foggy brightening up about noon —
Today about 11 A.M. Capt. R. came
Leaving ashore in a ships boat & I went off with
Bay — him & Mr Johnson — After coming out
& [illegible] of the Crooked Channel which [illegible]
[illegible] at 3 P.M. weighed anchor —
Time Crossed the Bar in 3½ fms (low tide)
at about 4.20. & at 6 passed Cape Arago
bearing East 4 miles off —
Noticed a few Albatrosses, large flocks
Birds of Pelicans & some Sea doves. Wind N.W.
5th Morning delightfully clear & pleasant
but it calmed before afternoon with
a fresh South breeze. The land in sight
C. Greg- till near evening when we passed Cape
ory — Gregory distant 6 miles — & [illegible] a house
on the bluff near Coquille River —
6th Morning foggy clearing off at noon
but the wind still fresh from south
At 10 A.M. passed Cape Mendocino 2 miles
Cape — off. This cape is beautifully varied with
Men- hills & valleys the north slopes being in
docino many places covered with trees which
Trees however disappear towards the south —
The hills rise in the distance 2-3000 ft —
All the land seen north of here seems
wood to be thickly wooded. The rocks off the
cape are white with the dung of Cormorants
The evening calm & hardly any wind —

67

San Francisco Bay

Octr 7th This morning at 2 A.M. we arrived at anchorage
off the city. The whole day was very
calm & bright. Wind N.W. being not half
high the water. Passed Pt. Reyes about
Pt. Reyes 3 miles off, its bold brown hills & steep
sandy & rocky cliffs looking very des-
olate. Noticed all the way the Pelicans
Birds [illegible] [illegible] & [illegible] [illegible]
To-day saw a new pretty bird, dark above
& white below, size & shape of a duck ×
Great numbers of Humpback & fin
Whales back whales were spouting about the
ship today & have been seen all the
way down. — There has been no [illegible]
[illegible] & there are fine cirrhous clouds
in the west before dark.
12th I've been residing in the city since 7th
The weather continues clear dry & warm.
City — I have attended two meetings of the
Cal. Acad. of Sciences & examined some
specimens. I have also been busy com-
paring notes & descriptions with books
Notes and specimens — The beaver found
etc in this state has a skull exactly like
those of my specimens in shape but
Castor larger — probably that of a male.
Aplo- The Aplodontia found here seems
dontia different from that of Oregon &c.
Felis The Wildcat seems to be the same
also

× Uria Troile or Minor

68 Oct. San Francisco — to

17th Weather continues warm & clear. The Behring's Strait Exp. has arrived here but I have not seen their collections. Dr Ayres considers the fish of Cape Flattery almost exactly the same as those here so far as he has seen them. A specimen of the Pyrocephalus rubineus was killed lately near here. The Common Crested Quail is found abundant here & the Mountain Quail is but rarely seen. Scarcely any of the larger birds but a few [illegible] & many besides —

Fish

Pyrocephalus rubineus

Ortyx

19th Yesterday came up the Bay to Santa Clara. The day was misty so that I could see little of the shore. — Today rode & walked about the village & noticed some new birds as per Appendix. These seem to have come south by an interior route as I noticed none at S.F. Bay & some doubtless go beyond there. The yellow-crowned sparrow sings now a few faint but sweet notes. Great flocks of blackbirds, grackles, turkey buzzards, crows, geese & ducks are flying about. Most of the migrating birds have probably bred in the mountains & therefore journey in the spring & fall east & west instead of north & south —

Birds

Fring.

migration western

Oct. Santa Clara Cal. 69

21st This morning there was a thick fog which cleared up at 10 but clouds hung on the hills all day. Rode out about four miles to the borders of the oak forests. Noticed several species of birds & a hare there but it was too late & warm to get any specimens. The Artesian wells here reach water at 75 to 150 ft & there is generally a strong flow from them. One at 160 ft went through a solid [illegible] & stones was thrown up [illegible] at San Jose burst up so strong as to [illegible] sand from the earth for a long distance —

Hares Calif.

Artesian wells

23d Yesterday was very warm. Therm. at 90°. Walked out only & shot a Shrike but the [illegible] was so [illegible] I had to return soon. Today went out again & shot several species of birds. The Kite has habits of flying & [illegible] like the Sparrow hawk but [illegible] higher. Its cry is a loud whistling note mostly when [illegible]. The buzzard [illegible] like the Redtail — One I saw seemed to resemble the B. Swainsonii —

Noticed in the evening a fly catcher in the garden opposite pursuing its prey high in the air darting & turning about like a swallow & then carrying the [illegible] to a branch to pick off the pieces — It seemed to be the M. Saya

Lanius

Ictin. plumb.

Buteo

Musc. Saya

6

70 Oct. [illegible]

San [illegible] Valley —

Went out this morning with my
gun among [illegible] & shot two [illegible]
Pipilo [illegible] The [illegible] is abundant & [illegible]
[illegible] the other species [illegible]
[illegible] & like hiding in the thick [illegible]
The only [illegible] [illegible]
[illegible] [illegible]. It seems generally
[illegible] & other species of [illegible]
Turdus [illegible] The thrush is more [illegible]
[illegible] the [illegible] [illegible] [illegible]
about like the [illegible] & makes a [illegible]
guttural cry of complaint like the [illegible]
[illegible]. The whole morning was
foggy & cool till about 10 o'clock.
[illegible] the [illegible] [illegible] as the [illegible]
[illegible] [illegible] I have seen. [illegible]
[illegible] along the road & by [illegible]
v. p. 71. [illegible] [illegible] like a [illegible]
Buteo [illegible] a [illegible]
[illegible] flies like an [illegible], but has the [illegible]
& high sailing habit of the Buteo [illegible]
The back [illegible] [illegible]
the under parts [illegible] white [illegible]
ing a large dark spot [illegible]
A pair kept about the [illegible]
[illegible] [illegible] [illegible]
[illegible] chasing each other [illegible]
& [illegible]
Morning much like yesterday but
the fog cleared up earlier & the
whole day was warmer.

71

Mountain View

Oct 28th Went out on the 27th to try & get the birds
above mentioned but without success. They
were too wild to get a shot at. This
morning left Santa Clara & came here.
Pica N. Noticed on the way the Magpie, Calif. Jay
Garrulus Calif. & some of the birds named above. The
valley towards the hills is covered by
groves of the Evergreen & white oak & [illegible]
[illegible] [illegible] only [illegible] [illegible] to [illegible].
Procyon Saw at [illegible] a raccoon which
seems exactly like the Eastern except
having shorter fur & a lighter tail.
Ortyx Also a pair of Cal. Quails in a cage which
have this year laid 50 eggs. Hatching
was not attempted.

29th Walked out this morning & shot three new
specimens. The Geococcyx is common &
Geoc.x has somewhat the habits of Colaptes on the
ground but runs much faster. It raises
its tail like a dog, scratching [illegible]
itself. I did not hear any cries. The
Melan. Melanerpes is not very abundant. I saw
[illegible] two, having much the manners of the [illegible]
[illegible] but its cry different. The Jay is
abundant here & though more like G. cristatus than G. Stelleri has cry more
different. It has the usual flight and
habits of feeding. Noticed P. [illegible]
abundant in the oaks, making the usual
Chickadee note in an unusual tone.
Day mostly cloudy & quite cool.

Oct. 30th This morning I shot several specimens of the Chamaea only now. Its notes are a loud shrill trill, at times commencing slow & growing more & more rapid for about 20 notes in the same tone.

Chamaea It seems to have much the habits of Bewick's Wren which is common here. There are numbers of conical piles of twigs & branches in the woods here which seem to be made by some animal probably a rat as I saw one with its habitation of sticks. It seemed to be the Black Rat. In the evening shot a small hare.

Nov. 1st Obtained no new specimens today. Rode in the evening out to Dr. [illegible] 4 miles distant at the foot of the hills. The place is beautifully situated among

Muraines rolling "Muraines" with a cool & constant stream flowing through it. It overlooks the whole valley & Bay down to the City. In front is a large patch of the

Chimizal shrub called "Chimizal" covering the heights & the favorite resort here of the "Paisano" (Geococcyx). Large numbers of Deer & quails still frequent it. A Grizzly was killed here lately & the Cougar is still quite common. Fragments of Red mercurial ore are scattered about there & a bed of white chalk like clay exists near.

73

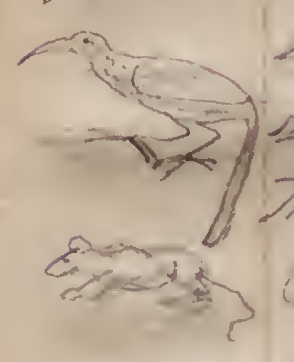
Nov. 2nd Yesterday returned to the village. Today was very windy & cold the dust flying & getting in everywhere. Went

Picus formic. out this morning & shot some birds. The Calif. Woodpecker seems uncommon in the oaks here & very silent.

Carpodacus Have seen only one Carpodacus which appears different from the C. purpureus. Its colors are duller & its bill shorter. The principal trees about here are two evergreen & one deciduous oaks, an alder

Trees and evergreen cherry, wild olives. Have seen fragrant Laurel & a shrubby Buckeye.

5th Have obtained no specimens of importance since last date. The Geococcyx is said to run up trees like a woodpecker & sometimes to sail off for a distance before running.



The woodrats common here [illegible] the build nests like a Beaver's hut of twigs & chips, several feet high & with the interior opening into rooms & galleries, while the outside sticks all point down so as to shed the rain. Often 5 or 6 nests like this are under one tree & when smoked or driven out they run from one to another or up a dead & hollow tree if one is near. They have burrows under their houses, but these do not open outside as they always run from the house. No means but burning will drive them out. The weather continues clear & pleasant but sometimes cold & foggy in the morning.

Nov 6th ☽

Since last date have been out shooting & got a few specimens. The Squirrel Marmot is very abundant on all the dry grounds of the valley & the lower hills, its burrows perforating the ground every few yards

Spermophilus — & extending to a great depth. They are very destructive to grain and orchards, & difficult to kill as they run off when wounded into their holes & strychnine is the only certain poison. When alarmed they make a loud shrill cry. They seem to be entirely diurnal, & most active during the warmest part of the day.

There is said to be a kind of Hare commonly here as large as a

Lepus rat, with short ears & which burrows. It is only seen at morning daylight & has a bluish tint.

A black & white cat like animal is said

Bassaris to be found in the hills, with a ringed tail & very docile in its manners.

The Magpie is common near the St & is said sometimes to appear in great flocks. Its call is not loud & resembles that of some Jays.

Hunters speak of 3 kinds of deer here the black & the white tailed & a very small one found among the tule bows on the San Joaquin Riv —

Nov 10th

Rain Last morning we had the first shower of the season though it scarcely wet the ground & today cleared off again cool.

Today shot a hawk of a kind quite common here, most of which specimen seems to

Buteo be changing to adult plumage though it had a brown Iris. One of the same species shot yesterday looked like a young bird but had a whitish yellow Iris. They seem to have the habits of the Red tail.

Last night I poisoned a small skunk

Mephitis with strychnine & skinned it today. This kind is very common in this valley & has a similar but fainter smell than the large ones. It is small enough to enter the Squirrel burrows. Today got a skull of the common species.

Meles Badgers are said to exist in this valley.

13th This morning rode 4 miles to Mr Emerson's. Walked about the place with my gun but did not get any specimens. Immense numbers of Geese & Cranes are flying about. Ducks & [illegible] & but few [illegible] are here now. Meadow larks, Titlarks, and

Nov 14 Shore larks are the common field birds.

Noticed near a little creek flocks of Tringae & Plovers. Marsh hawks & sparrow hawks are the commonest kinds, also a few of the Buzzards which keep shiftily about the ground [illegible].

A shower fell last night —

26

Santa Clara

Nov. 15th Yesterday I returned from S. F. & today walked out in the morning & obtained some birds. Saw a white headed eagle & another which seemed much larger but colored like the young. Last night there was a heavy white frost the first this year. The day was very warm & pleasant. The "Squirrels" seem as active as well as the wood rats which now seem to feed much on the bark of Sycamore. The former are said to destroy sometimes 35 to 40 acres of grain which they cut the heads off of clean from one point & deposit them in their burrows which have been seen 30 ft deep in digging a well—

H. leuc.

Spermo. philus

17th Weather continues warm with white frost at night. Yesterday caught one of the wood rats in a trap. It seems to be of the Black species. They are said to enter tents sometimes & steal the bread &c from the [illegible] which they stow very neatly in their burrows. The small skunks are probably the worst enemies of these (the squirrels being small & able to follow them). The Rats are mostly nocturnal but sometimes come out in the daytime (Specimen destroyed by a cat. Skin only preserved. D.S. $\frac{2}{2}$ – $\frac{61}{4}$ & app.)

Neo.

27

Valley Oaks

Nov. 19th Walked out this morning & shot three specimens of Carpodacus which seem to be C. frontalis & differ in form of bill & colors from [illegible] specimens. In flight and call they are very similar having somewhat the manners of a Carduelis. These birds had been feeding on seeds of the Wild Mustard — & thistle or other new things. Immense flocks of birds are now about the woods composed of several distinct species frequenting the ground, the trees & the fields. Saw a dead Skunk which seemed to have the habit of the [illegible]. Weather continues as yesterday but the day warmer & a fog on the hills at sunset.

Carpo-dacus frontalis.

Mephit. & occi.

22nd Yesterday I rode up to the [illegible]. Weather clear in the morning but it suddenly clouded up at noon & rained. Today walked out over the hills for several miles & saw some deer with several coveys of quails. These hills resemble in form those of the north, but the timber is higher chiefly on the ~~southern~~ slopes & composed of Oaks, Buckeye, cherry, Laurel & Madrone. Met with no new species of birds. It rained heavily part of the afternoon but only at intervals. Shot a Pigeon hawk in the evening — a common species. Observed yesterday a Humming bird the Rivolian species—

Trees

Trochil. Rivoli

Coast Range Cali.—

Nov. 23d Today walked out for some hours & obtained one bird— Noticed the Ribes sanguineum? in flower & two Humming birds about it. Also a black-eared hare & a wild cat which was seen in the open prairie but ran to a brush on being hunted. Slight frost last night— Flying clouds & light showers to-day.

24th Today mild & cloudy but no rain— Obtained the wild cat seen yesterday & skinned it— It resembles those of Wis. in everything but the gray color of the ground fur— Saw also a Muscicapa not before observed & a Tamias— which seems rare here—

27th Yesterday & today warm with cool nights & white frosts— Walked out both days but got only a few birds & a Woodrat— This I shot after driving it out by burning its nest where it seemed to live alone. A Kangaroo Rat found in the oat fields & often ploughed out is said to be Marsupial— but ambiguously— Hunters consider the Otter is the same but the Beaver larger than at the East. The latter are common on the San Joaquin. A large spotted Cat has been seen on the Butte at the head of this valley—

Nov. 30th Remaining at Mountain View— Weather since last date variable but with scarcely any rain— Yesterday it cleared off with N. E. wind & today clouded again with wind S.W. — Have obtained several Woodrats which the Cats have much injured all males & except the young, found living alone in their nests, from which I burnt them out. One ran up a vine into a tree near by— Another was much singed by trying to get into a burning nest— The young came out of one nest together—

Mniotilta Obtained today a pair of the Warbler seen last Dec. at S.F. Bay?— Mr Simmons has shot at an Aplodontia near this place—

Dec. 1st Left at 9½ o'clock in a coach for the City a distance of 30 miles in seven hours— Day cloudy & the coldest yet felt— Saw along the road immense flocks of Blackbirds, a few of Say's Flycatchers and two hawks that seemed new. There is a belt of oaks a few miles down after which the hills are mostly bare. Near the city on entering the sand hills the Spermophiles disappear but the ground is covered by gopher hills— Much more rain has fallen here than 30 miles south—

San Francisco

Decr 3d Attended a meeting of the Academy Specimens of Fossil Pecten and of Ostrea from the Mt. Sandstone of [illegible] were given — proving it to be a recent tertiary formation —
A hawk intermediate between two [illegible] in plumage was presented —
The Woodrat is said to lay up stores of bushels of acorns in [illegible] & to kill & stow away young chickens. They can be frightened out by a pole & shot. The female has been seen with young hanging to the teats —
Weather clear in the morning but a light rain began at 10 P.M.

Dec 6th Left San Francisco today in the Str. Golden Age Capt Watkins at 3 P.M. Morning cloudy & cool with a fresh S.W. breeze which made the sea quite rough in going out — Dr Newberry & I have a state room together in the Cabin aft. — Was a little seasick but ate dinner with a good appetite & retained it.

7th Day overcast & cool. almost out of sight of land. Observe two species of Albatross following one the Diomedea ? the other dark with white [illegible] head & [illegible]. Also another bird as large as a duck which sometimes flies up behind [illegible] [illegible] [illegible] [illegible] —

8th Yesterday was clear & cool with a fresh breeze from the N.E. To day continued clear & warmer. the wind off shore, East. All day passing some Islands named Benito &c. High brown barren masses of volcanic origin said to be uninhabited. A large flock of the Western Gull &c accompanied us here with five or six brown Albatrosses said to be uncommon so far south. No Petrels seen except [illegible]. We make about 11 miles an hour but the ship goes slower as to [illegible] along the [illegible] & [illegible] at the time of the Atlantic Steamers —

9th Weather warmer but still pleasant. Reached today Lat 25 Long 112.38 having made 260 miles in the last 24 hours — Passed by the Island of Margarita & others all barren mountains with the characteristic appearance of the whole coast — No sea-birds but Petrels appear today though a frigate bird was seen [illegible]. In the afternoon a large shoal of Porpoises passed with us. Whales have been but rarely seen so far —

10th Warmer than any day yet. Passed the Str. Sonora off Cape St Lucas without stopping to [illegible] speaking — Numbers of [illegible] of [illegible] floating [illegible] [illegible] a white bill & [illegible] feet —

Off Gulf of Tehuantepec

Dec's 14th — Weather continues very sultry but today there is a fine breeze & more comfortable — At 8½ P.M. 12th we entered Acapulco harbor but only remained a few hours for water & no one allowed to go ashore — Large white Gannets with black wings have lately followed us and yesterday a new bird black above & white below like a Tern in the flight & catching flying fish — [illegible] also are quite common — Passed a whaling bark last evening.

18th Nothing of note has occurred since last date. Weather still hot, south wind prevailing & last night it rained, we being near land which was out of sight till yesterday morning — Few birds have been seen lately, the Petrels & Gannets the only birds — In the afternoon rounded the point north of the Bay of Panama & continued up this till the anchorage which we reached about midnight. The water here is as smooth as a lake now, the breeze light & off the land, making it very sultry. We have made 13 miles an hour for the last 30 — Passed Str. J. L. Stephens at 11 P.M. and about midnight came to anchor

Panama

Dec. 19th This morning about 7 o'c. we went ashore in a small steamboat, the cargo being immediately after. I went up the city & tried to get some shells but scarcely any are to be had for money or liquor & Oranges being the principal. Then walked out & collected about 30 species chiefly small univalves — The ground is now quite dry but vegetation is very luxuriant — Observe abundance of Lizards but no snakes yet —

20th After spending some hours this morning in a vain search for baskets I walked about a mile along the Western shore & picked up a few shells — then entered the woods & searched a long time for land shells of which I could find no traces — not even dead specimens — After dinner again sought for them through a marshy thicket but in vain — Obtained some birds & skinned three but most were too much damaged. A Totanus is common resembling T. mac. The Agelaius seems very near A. Gubern. The Quiscalus resembling [illegible] but I do not know its habits — See scarcely any birds as they are very shy keeping in the thickets. Day warm & mostly clear — sea breeze

Panama City

Dec'r 22nd This morning went out on the rocks & obtained about 20 more shell species though the tide does not now fall more than half its lowest ebbs, which occur at new & full moon as mentioned. Visited Mr Wright the missionary who has a good collection of about 100 species made during 4 years past — He says Bulimi can be got only at Taboga, & several other kinds about there & the Pearl Islands only — He has a dredge which I can get. My collection already numbers about 40 species of univalves & 25 of bivalves —

23rd Visited the rocks again this morning, the tide being lower, & obtained several more species of shells, besides a large number of duplicates — In the afternoon we went to the river about 2 miles out on the Cruces road to get some shells but found none except a few very small land shells & a few more of fresh water Littorina. The Papaya, Banana, Bread fruit, Cherimoya, Guava, Banana &c. grow here abundantly, besides other less known fruits. Legumes are found now in flowers, most of the others being past. The climate is now like that of July at N.Y. but the nights cooler.

Bay of Panama

Dec. 26th Yesterday morning went aboard of the Steamer & remained all night having met Dr Stuckey on board. Today went on one of the islands & obtained several new shells — though the tides are not half full. The weather continues pleasant.

27th Again went on another island & got some more new shells. In a cave found great numbers of Chiton & a Patella shell species with a spear shaped growth over its nose. Noticed a conglomerate on the shore like P. Toris, also a small [illegible] — The rocks here are Basalt.

30th Returned ashore the 28th & have been gathering shells as usual since along each side of the beach — Today went to the East Mangroves & got some fine Littorina &c. Also killed with a stick an Opossum in the woods which I found sleeping in a hollow tree — It appears to have much of the habits of the N. Virginia, feigning death, but not resisting except by growl — & only biting the stick when put in its mouth — Yesterday bought two tortoises to carry [illegible] to New York

40 1856

Jany 2nd Yesterday the Ste. Empire City arrived at Aspinwall and brought the mails but no news for me. The tides fell at [illegible] spot & I did not go out for shells but spent the time in preparing for packing. Today obtained [illegible] specimens from Mr Powell & myself 16 fine [illegible] from a native for 40 cts. Packed them up in the afternoon putting [illegible] on top with a [illegible] to a [illegible] air.

3d The [illegible] arrived here last night rather ahead of her usual time & I have to leave rather hastily. Started from Panama at 9 A. M. after vexatious detentions from bad [illegible] & unfinished [illegible] arrived at Aspinwall at 3 P. M. The Steamer having gone out for water we did not get aboard till 11 P. M. & at 12 started out. Weather cloudy & foggy the [illegible] from the sea being [illegible] on the west side of the Isthmus.

5th Making about [illegible] we are going nearly [illegible] with a fine [illegible] & [illegible]. The sky is mottled with [illegible] & towards night a little rain fell. [illegible] a few gannets & [illegible] one Frigate bird [illegible]

87

[illegible] on the sea

7th Yesterday was quite stormy with a rough sea & [illegible]. Today more calm, wind & [illegible] from N. E. Saw no land or other objects [illegible] the afternoon passed [illegible]. The wind being strong ahead yesterday we did not make quite so much head way as usual in the last 24 hours. At [illegible] passed another [illegible] bound South.

9th [illegible] been going more rapidly since the 7th making [illegible] miles in the last 24 hours. [illegible] in sight of Cuba all [illegible]. Today at [illegible] P. M. passed [illegible] light on Florida Key. Saw a large ship ashore about 13 m south of it. See no sea animals & only one bird [illegible] probably a Gannet. Weather clear & cool but becoming overcast towards night, wind N. E. [illegible] passed [illegible] which was in sight [illegible] a low line of trees being all that was visible.

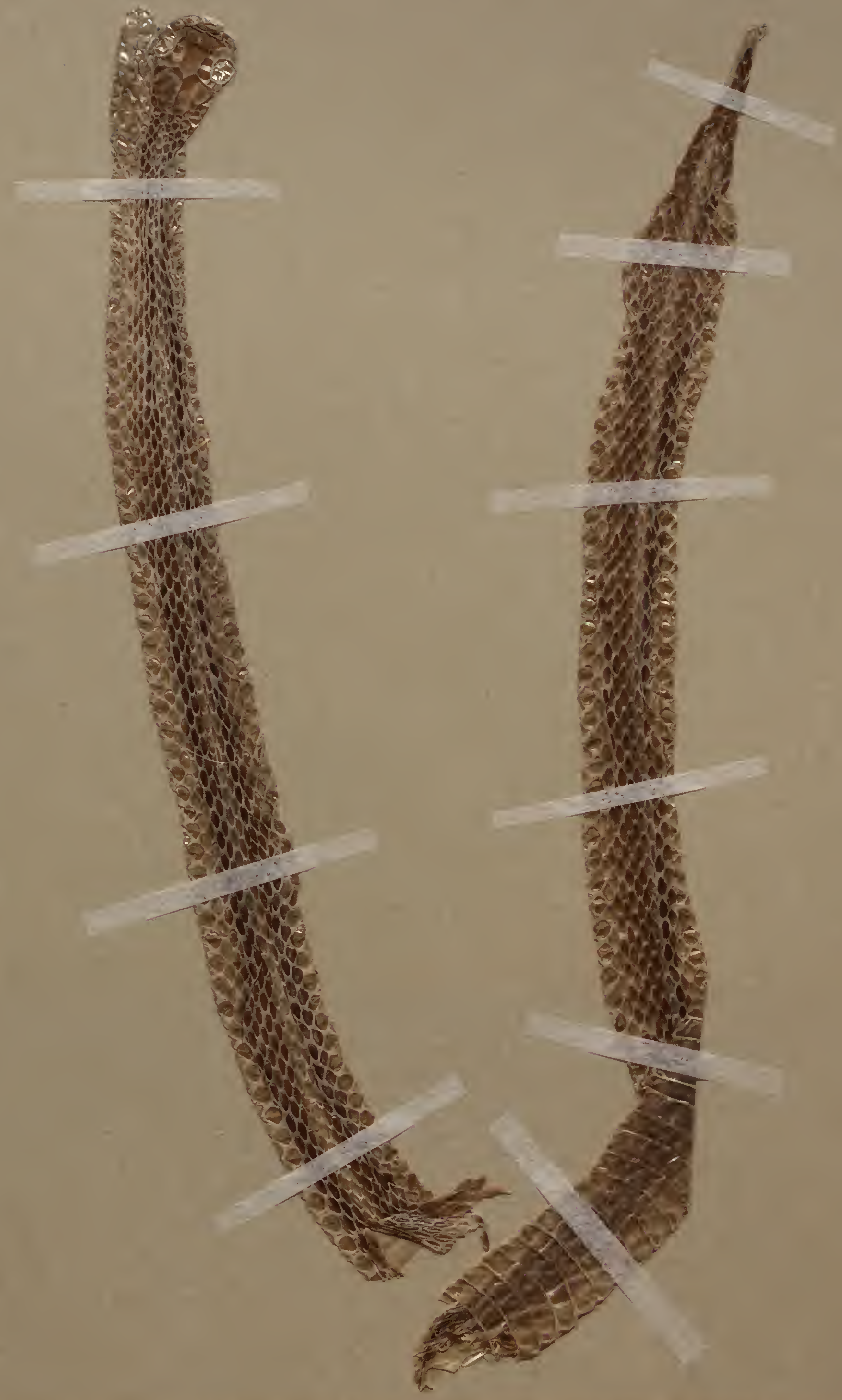
11th Yesterday & today were cloudy and [illegible] with a N. wind [illegible] today. [illegible] but did not see any bird or other animals. As we are in the Gulf Stream the sea is rougher than otherwise the current running contrary to the wind.

Cape Hatteras —

68 Jany 12th Morning warmer & rainy wind still N.E. about noon it increased to a severe gale & the sea became very rough making the ship roll terribly which continued all day. Waves often broke over the stern & the bow shipping water every time — Are supposed to be passing the Cape though no land is visible — The Passengers are generally calm but some tell our captain fear we may spring a leak by the great strain — Saw one Sea Gull following us —

13th Day very cold with a west wind and clouds flying over — Was taken with a chill in the morning which lasted till night & was followed by the usual fever & afterwards sweating — A large flock of Gulls appeared today apparently all [illegible] —

14th Entered the lower bay in the night & the water is very smooth here [illegible] and quite the contrast — Weather still cold & overcast.



86 Jany

Cape Hatteras —

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At [illegible] noon it increased to a severe
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ing the Cape though no land is visible.
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some [illegible] captain fear we may
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[illegible] [illegible] Gull following us —

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today apparently all [illegible] —

14th Entered the [illegible] bay in the night
The water is very smooth here —
[illegible] and [illegible] the [illegible] —
Weather still cold & overcast

Part Second Ch 1st

Physical Description of the Country
of Lower California & General remarks —
A Passenger approaching the coast near the [illegible]
of the Peninsula; [illegible] [illegible] of [illegible]
[illegible] [illegible] [illegible] to [illegible] [illegible]
be [illegible] by the appearance of the [illegible] [illegible] [illegible]
with [illegible] [illegible] [illegible] [illegible] of the
country visible from the [illegible] as [illegible]
[illegible] [illegible] [illegible] appearance [illegible]
[illegible] [illegible], but the [illegible] [illegible] dness
of [illegible] [illegible] [illegible]; and a few [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible])
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] bearing [illegible] that it [illegible]
one of the principal differences [illegible]
[illegible] [illegible] of the [illegible] [illegible] and the
[illegible] the [illegible]. The [illegible] [illegible] [illegible]
pervade the whole country and the higher [illegible]
[illegible] [illegible] approach nearer the coast, their [illegible]
peaks [illegible] [illegible] [illegible] visible [illegible] at sea —
But the rough craggy outlines or bare [illegible]
[illegible] [illegible] at the very edge of the sea [illegible]
[illegible] part of [illegible] [illegible] the [illegible] of [illegible]
[illegible] seems [illegible] by the [illegible] [illegible] —
[illegible] [illegible] than a [illegible] [illegible]
for its forests as California or [illegible] for their
[illegible] plains, and [illegible] at first [illegible]
at [illegible] a [illegible] change, though we may [illegible]
sufficient [illegible] for it [illegible] proved to [illegible]
[illegible] closely into the natural productions, cli-
mate and influences of man's presence in [illegible]

Summary of the Columbia River

Outside of ~~the~~
~~[illegible]~~

The Columbia as far that in common with all great rivers its impressive current for some distance into the sea and that for the season of summer flood it carries vast amounts of fresh water some miles off. [illegible] the principal channels setting outward the S.W. and N.W. carry out immense quantities of sand and other drifting matter along with [illegible] have formed large deposits in the channels and have no doubt contributed towards the formation of great banks extending, one off the Straits of De Fuca the other off Coquille River, each about 150 miles distant and in the direction of the two principal channels of the river. Though the river forms no proper delta, there is no doubt a greater shallowness along this coast than either north or south of it.

The energetic [illegible] of the Pacific which seems to be wearing away the whole western coast and excavating [illegible] gulfs in its shores, meet here an opposing force, [illegible] bring in almost as fast as they can remove the deposits — The coast thus bordering upon the Columbia River region has a peculiar configuration which will doubtless be found to influence materially its marine productions when these come to be better known, and which we can now find curious striking differences by contrasting them with those of the Gulf of Georgia with [illegible] through in a much lower latitude and also the outlet of such an immense river with its varied and copious sediments, we do not find its fauna by any means so rich or diversified. There are other causes apparently contributing to the effect, besides the muddy water of the coast. A The Columbia is very cold at all seasons — the ice of winter has scarce melted in its northern sources before a flood of snow water from the mountains pours down and keeps it in a state of inundation during the spring and warmest months of Summer. Soon after which the autumn rains set in and keep down its temperature during the rest of the year. It is probable that in mid winter the water is warmer than by the middle of summer, though the [illegible] cannot vary much in different seasons throughout the year —

The light inorganic deposits also which would supply food for animals are carried far out to sea by the various currents at its mouth —

Marine vegetation is rare and little varied in these gray waters. A few algae only exist and only on the rocks which lie scattered along the sandy beach. Shellfish and fish are caught there and in [illegible] they are often washed up alive in immense numbers on the beach gorged by eating a small kind of [illegible] and their [illegible] so distended that they cannot sink. [illegible] are sometimes found dead on the beach, a small shark is abundant and every year some small whales drift ashore, perhaps stranded on the sands. A single Killer was also found in 1855 but besides these I have never seen or heard of any large sea fish in the neighborhood of the mouth of the river. Several small fish are found but none I think of peculiar species —

Natural Products of

The conchologist is usually disappointed in finding a variety of [illegible] at the river's [illegible] there [illegible] but three marine shells found though in the bays neighboring there are twenty or more and the number rapidly increases both towards the South and north. And in the river there is a deficiency of fresh water and land shells, considering the high latitude and cool climate —

(~~Before extending~~ this review we may take a short reconnoissance of the coast northward in regard to its natural features and productions) T. P. 2

For 60 miles north it is formed of a sandy beach the deposit of the river and of the others emptying into Shoalwater and Grays Harbor, presenting a similar Fauna, varied only by the greater impurity of the water and the different temperature of the rivers emptying into it. The Bay first mentioned affords Oysters and many other edible shell fish, which form a very important article of export and of home consumption. Grays Harbor has no oysters but a [illegible] is abundant showing a greater degree of saltness than in the Columbia — A small river the Chenamus empties just at the north of this and thence to Cape Flattery the coast is rocky and precipitous, having no doubt a very different shape of animals which are unknown to me mostly —

South of the Columbia the coast is alternately rocky and sandy with few small bays and rivers till we reach nearly to the California line — and its animal productions do not probably vary much from the rest of the Columbia Coast Region — A to P6

c. app. p. 4.

the Shore Line

The Sea Otter so interesting to Zoologists frequents the rocky portions of this coast but never ventures into bays or near a sandy beach — Seals however abound at all seasons even 100 miles up the Columbia where [illegible] waters probably attract them, as well as the abundance of their favorite fish the Salmon. To P. 16

~~(Of [illegible] now give [illegible] of the only [illegible] of the shore line [illegible] to notice of the Trees and [illegible] along the [illegible] this most interesting & important product of the whole country)~~

~~At [illegible] alone [illegible] study [illegible] to [illegible] and [illegible]~~

(A The two prominent heads formed by Cape Disappointment and Chinook Point are strikingly conspicuous for many miles, from being bare of trees on their S.W. face — This seems to be in consequence of their exposure to violent winds at almost all seasons, and other less apparent causes — Excepting these the trees ~~[illegible]~~ grow down to the waters edge) ~~and this is the fact all along the [illegible] of the Dist.~~ — (But the coast both north & south presents a narrow strip of sandy prairie ~~which may be the [illegible]~~ very different in vegetation from the neighboring hills and somewhat analogous to the Californian prairies)-

(Here insert descriptions of some of the principal trees along the coast from page 8–9 of App. also those shrubs peculiar to the coast line)

Some animals and

Through these swamps thickets and prairies large herds of Elk roam especially in winter but are with much difficulty pursued on account of the nature of the country. The hunter does not find sufficient inducement for following them except when a fall of snow which may not occur for years makes it easy to track them to their lairs in the dense [illegible]. The Indians formerly killed them by enclosing a large space with a circle of men and then gradually narrowing it until they drove the game into an open spot where they were easily killed. The black tail deer also occurs sparingly about the borders of these prairies.

When we come to travel through the woods we find that unless by the Indian trails it is almost impossible to get along on account of the luxuriant growth of various shrubs. Many of these are evergreen and though of northern genera appear almost like tropical species, so rich & luxuriant is their foliage. (These describe (Panax horrida) Gaultheria Shallon, Vaccinium ovalifolium & V. ovatum)

(In the Bays adjoining the mouth of the Columbia, immense numbers of waterfowl are found in the migrating seasons, mostly of species also found on the Atlantic side. The peculiar northern Pacific species as well as those of the Californian coast seem to avoid this region of coast, excepting a few species which I will merely mention — (Phal. Brandtii, Diomedea [illegible] & [illegible] & others mentioned by Townsend in P. R. R.)

Plants of the Coast

In the hollows between the ridges along the coast border and also in a few spots around Puget Sound & the Straits we find sphagnous swamps having almost exactly the vegetation described in these localities from high northern latitudes down to 42° on the eastern side. The cranberry, narrow leaved Kalmia, Ledum palustre or Labrador tea, [illegible] and other less striking plants are common together with a [illegible] or [illegible] of a species peculiar to this coast. The cranberry (and probably all the accompanying plants also) is to be found at least as far south as Humboldt Bay which is about the same latitude as its southern terminus on the eastern coast.

At the same time we find several plants of Southern genera & requiring much heat for their growth flourishing in the sand along the sea beach very near these northern species.

One of the most remarkable facts noticed in the Natural History of this coast and of which instances occur among the plants fishes and birds, is a much closer resemblance of the species to those of Europe than of the Eastern coast of America. So striking is this resemblance that in many cases naturalists have been unable to find specific distinctions. The first that we meet is in the Yew, long confounded by the most eminent botanists with that of Europe while it differs entirely from that of the Eastern States. Nuttall however makes it a distinct and new species.

Tide waters

From P.15 The strong current and great volume
Fresh of fresh water in the Columbia River
water of almost entirely prevents the entrance
Col. river of the sea-water, so that even at high
tide and when the river was low in
July I found it drinkable in Bakers
Bay, not half a mile from where the
breakers were dashing against the
rocks outside the Cape.

A consequence of this freshness is
sickly & that we find many plants growing in
small numbers down to the mouth of
this river which belong to the second
region, or that east of the Coast hills.
Of these I may mention the Poplar
Ash and Dogwood. (But in [illegible]
on the Willopa or Chehalis we find
the western limits of these trees very
distinctly marked, for in both of these
rivers the salt water flows in for many
miles; in the former about fifteen, in
Chehalis the latter I found the water brackish
brackish for 20 miles up in March when it was
To P.3.A swollen by long & heavy rains.)

A. (Along these rivers ~~also~~ for a long distance the characteristic trees of the
coast prevail exclusively, and it is only
on the hills above tide water that we
begin to find an approach to the vegetation of the ~~[illegible]~~ Valley Region

Soil B (Soil of the Coast Region. (Prairies of the
& Willopa, Columbia & Chehalis. w. P.12 –
climate

Abies Douglasii

Begin In a few scattered spots even along the
coast we find a species of Spruce differing much from the two commonest
species. As we advance towards the
interior and reach higher ground this
becomes more common, but on crossing
the summit of the coast range it
Range becomes suddenly almost the only one
seen to be seen, and thence prevails over
all others to near the summits
of the Cascade range. This Spruce
is the one called by the Americans
18 "Red Fir". It was discovered and
named in honor of the lamented
Douglas, the pioneer botanist of the
Appearance coast. Its rugged bark like that of
the chestnut, both in form & color,
and its peculiar cones, at once distinguish it from all other Coniferae.
Its trunk in the forest is very free of
Uses branches, and it is the species most
used for lumber, especially at Puget
Sound, though it is coarse grained &
very liable to warp and shrink.
When standing alone in a Prairie this
height is a very fine tree, growing sometimes
250 ft. high & conspicuous near the
coast for its overtopping the Spruce
Limits forests. It extends from the higher ridges of the Sierra Nevada, northward
To P to ?

2nd Region and

~~A So sudden and great is the change~~
~~in the vegetation on passing the the~~
~~ridge of the Coast Range that we~~
~~might fancy ourselves [illegible] to~~
~~to have been magically transported~~
~~some hundred miles in the course of~~
~~an hour's walk — Along the rivers~~
~~the change is somewhat less marked~~
but still sufficiently evident. In
B travelling on the Columbia whenever we
arrive at a point   miles from its mouth
Oak the Oak suddenly appears, and this
point is just where the river has forc-
ed a passage through the mountains)
C On the Chehalis also the Oak is limit-
ed at a corresponding point, and on
the Willopa and other small rivers
arising in the Coast Range both the
Oak & Ash are entirely wanting. —
P.8.A. Not only are the prevailing forest
Shrubs trees different but almost all the shrubs
& and herbaceous plants. (Here describe
herbs. some of the most striking species).
descr. Climate and soil are perhaps the
great causes of change in vegetation.
Much of the rain and winds from the
Climate sea being intercepted by the Coast Range
& the Valley region is drier than the Coast.
soil — This dryness is increased by a gravelly
soil which reaches to a depth of over 100
feet in many places, and prevails over
the whole region as far as I have seen.

P8. B

River banks —

(Continuation of Report from Page 33-) The immediate banks of the Columbia
and of the other rivers throughout that
part of Oregon & Washington territories
west of the Cascade Range, form a very
peculiar subregion, distinct from the sur-
Soil rounding high lands. The soil except
where the rocks approach the water, con-
sists of sandy alluvium, deposited and
renewed every summer by the floods.
Floods The annual overflowing of these bottoms
also has a marked effect on their vegetation
Occurring from the 1st of May to the end
~~the~~ of August it prevents [illegible]
during that growth of many plants while
it appears to favor that of others —
Poplars Here we find the ~~[illegible]~~ Cottonwood and
& Narrowleaf Poplar, with their smaller rela-
Willows tives, the Willows, of many species. Both
line the banks of the rivers in dense groves
Shrubs the underbrush of Snowberry and Cornel
making travelling utterly impossible —
These four plants thrive during the grow-
ing season, immersed in four or five feet of
water for several weeks — On some streams
they are also subject to overflow during
the winter floods for short periods —
Meadows — Places still lower on the Columbia do
not produce trees, but after the subsid-
ence of the water are covered with a luxuriant
growth of grass and many beautiful flow-
ers — (Describe the above trees & shrubs)

Upland prairies &

These peculiar river bottoms and prairies are only found above the influence of the tide water – Prairies first appear on the Columbia just above Oak Point, the forest continued, and continue near its banks up to the mountains – On all its branches there are also smaller prairies scattered at intervals, which is also the case on all the larger rivers of the country –

Import-ance – These are very important as forming nuclei for settlement in this wooded country, but are much isolated by the surrounding forests – Some of them are undulating and never overflowed and why that are not covered by forests is difficult to comprehend – They do not commonly show any traces of a former growth

Some Bay at all times with trees

though in a few cases they have been covered, yet show the mounds & hollows left by the stumps – It is certain that the Indians have always been in the habit of burning off these prairies annually, to kill the young trees and cause a fresh growth of grass – Where this has been neglected, as near Vancouver & Nisqually

Decrease

for the last 30 years, the forest is found to be gradually spreading over them –

Old Indians say that they can remember when many of the prairies were much larger than now, from this cause –

their Causes –

This fact of the agency of man in preserving these prairies leads me to suppose that those not caused by overflowings are all due to that cause – The first

Indian

immigrants may have found spots not invaded by the extending forests, which were, and still are almost the only resort of game such as deer & elk – To keep

Preser-vation

these as hunting grounds they used the only means they knew, to kill the trees –

They also derived one of their principal vegetables from these same prairies, and still, the whole tribe resort to them and encamp during June and July to gather

Kamas

the "Kamass" root. They do not however seem ever to have resided permanently on them except when open to the river banks, their life being so much spent in canoes which needed their constant attention –

Since the introduction of the horse among

1810?

them, they have had a new use for the prairies, and some tribes towards the coast have even partly exchanged their canoe life for one on horseback –

I cannot, otherwise than by this agency of man account for the existence of many prairies, whose outline is so sharply defined by the unbroken edge of forest as if carefully cleared for the farm, every stump dug out, and the ground levelled raked smooth, and sown with grass and flowers –

Characters of

These Prairies burst upon the weary
traveller who may have toiled all day
through the tangled forest like Oases
in a desert. From February to July
Flowers they are beautifully spangled with
flowers of every hue and of endless vari-
ety of forms far exceeding those that ornament
our fields & meadows in the East.
The botanist recognises many famil-
iar genera but few Eastern species.
species (Here mention the most striking)
(A few have been already met with
in the sandy prairies of the coast, and
others have wandered north from Cali-
fornia or west from the Rocky Mts.)
We hardly expect many peculiar spe-
cies in a region almost entirely devoted
to forests. And almost all are confin-
ed to the prairie, very few extending be-
yond its limits into the forests.
An instance of the meeting of two al-
lied species spreading in opposite di-
rections is found in the two Elders
of this country. The red berried kind
Sambucus found throughout northern America and
Pubens Europe is common in the dark woods, while
[illegible] one with blue berries, common in Calif-
ornia & other regions west of the Rocky
Mts. here appears only on the prairies, tho
it may be within a few yards of its more
northern neighbor.

the Prairie

Extent The most extensive prairie regions are
scattered through Whidbey's Island, about
the head of Puget's Sound and thence
southward about the upper Chehalis &
Cowlitz Rivers to the Columbia. South
of this they appear along the Willamette
and towards its head expand into a great
plain which continues with belts of forest
along the mountains to Rogue River where
the country gradually merges into a Calif-
ornian appearance and vegetable charac-
Limits ter. In fact the dividing ridge between
these two rivers is the natural southern
boundary of the true Columbian Region.
As already mentioned these prairies hav-
ing all much of the vegetation and char-
acter of uniformity they are all very si-
milar though the prevalence of some
plants is greater according to the am-
ount of moisture prevailing on them.
Northern But on Whidbey's Island we find an
plants. approach to the vegetation of the far
north, in a few genera of plants.
Here also we meet a few plants on
the prairie, not before seen, and in several
so far north they are of species which extend entire-
ly across the continent. These are the
[illegible] Great Fir and Canadian Shepherdia.
A new Thuja also appears which is pe-
culiar to the coast from here northward
To P. 8 (Also mention Popul. tremul. & [illegible]).

Northwest Gulfs —

A few words respecting the peculiar
fauna of the great NW system of Sounds
and channels which commences in this
region, will be best inserted here —
(The lands surrounding it are simil-
ar in appearance, geological formation
and vegetation to the rest of the val-
leys forming the 2nd Region. The
great differences depend then on the
peculiarities of the water itself.)
Almost as salt as the ocean itself it
Tides is renewed twice daily by a great
etc. ebb and flow of the tide, which rises
from 8 to 15 feet at all seasons.
Rivers The small rivers flowing into it
scarcely affect at all so immense a
body of water as is contained in this
Gulf, its depth varying from 30 to
Depth 60 fathoms throughout. (The streams
being mostly mountain torrents de-
pending on the rains & snows of the
Cascade Range for their supplies,
and having short distances to run,
bring down comparatively little organ-
ic deposits to serve as food for ani-
mals. But the water of the Sound
preserving a nearly uniform tempera-
of the ocean ature, and from its depth & situa-
tion being little affected by storms,
is a great nursery of marine ani-
Animals mals — (Here are numbers of fish,
crustacea, Radiata &c.)

Olympic Peninsula —

The large Peninsula lying on the
west side of Hood's Canal is as yet al-
most unknown. It appears entirely
composed of irregular mountain ridg-
es, most elevated towards its northern
end, and densely covered by timber in
all parts below perpetual snow. That
it is almost uninhabitable is probable
from there being no Indians in its in-
terior. As far as penetrated nothing
but a succession of mountains is found.
It is not probable that any peculiar
forest trees are found in it. A spe-
cies of Pine said to be the White Pine
occurs on Hood's Canal & probably is
common on the high ridges as it is on
those of the Cascade Mts. A Juni-
per has also been seen at the Cape in
small numbers.
This range south of the Chehalis assumes
the name of the Coast Range & becomes
very irregularly broken though having an
average height of at least 2000 ft. as far
as the Columbia River. It forms a natural
limit to several species of trees though not
in so marked a degree as the Cascade Mts.
P. 10. B.
and C.

Western slope of

(Addition to Report of 1853) In ascending the western slope of the Cascade Range a little north of the Columbia River I observed little difference in the vegetation or appearance of the Country until we reached the highest ridges —

Burnt — Very extensive tracts have been burnt over at different periods, the Fir being a very combustible tree its bark often full of resin and the wood dry — Whole forests are thus found dead and a growth of the prevailing shrubs starts up forming protection for the young trees of the same species which follow in time —

6000 ft — At an elevation of about 6000 ft. above the sea in lat. 46° there is another change in the species of trees prevailing, and the whole vegetation assumes almost alpine character — A splendid new Balsam Fir resembling the Silver fir of Europe begins to take the place of ~~all~~ others — A variety of the White or Weymouth Pine is to be found in small numbers, and these may be considered the summit species of this part of the mountains — They were not abundant at this point and probably extend more towards the north — Is a variation of other species found south of the Columbia —

A. amabilis —

Pinus Strobus

Cascade Range

On the summit of one hill only, about the highest point visited I observed a Juniper of a very decided Alpine character. It had a strong glaucous hue & formed no trunk, but spread out on the surface of the ground — The berries were in August as large as Peas — A few other plants of peculiar species were noticed here, but most of those which were in flower have occurred lower down. None of the peculiar animals of the Alpine summits were noticed here but the mountain sheep is found in small numbers about the snowy peaks and the Canada Grouse have since been seen there. Undoubtedly the bases of the immense Peaks which even these seemed to tower above us higher than when seen from below, must have many animals & plants peculiar to them, a few only of which are known. It was the warmest season of the year in August during our visit and yet ice formed every night — Great numbers of a new Ground Squirrel were abundant, as well as the Pine Squirrel seen throughout the forests. Strawberries were then ripe — and abundance of two species of Vaccinium one peculiar to this region & producing a very large purple berry of fine flavor. I saw no oaks at the highest prairies reached

J. n.

Aries [illegible]

Eastern Slope of

(vide p. 21 As I observed in crossing the
coast Range, a very few miles distance causes a wonderful change in
the character of the country)

A. In this Range we have thus nar-
Alpine row strips of Alpine appearance, but
subregion in lat. 46° scarcely wide enough to
form a distinct region at 6000 ft. —
Crossing the (the) dividing ridge
we began to find a new Species of
Pine prevalent and it soon becomes
almost the only species of the forests
on the Eastern Slope — This is the
Pinus "Yellow Pine" of Americans though
ponderosa quite a different species from that
of the same name on the Eastern
Coast — It is a fine tree growing
about 100 ft. high with a straight
clear trunk branching about 40 ft
from the ground — Its bark is red-
dish in hue & ridged much like
the Chestnut's. Very little underwood
occurs in these forests, the principal
shrub being a beautiful species of
Ceanothus Ceanothus — The soil is sandy gene-
velutinus rally everywhere, and at this season
much dryer than west of the
mountains, there having been no
rain since about the first of May —
The few plants still flowering are
(nearly all different from any before seen

Cascade Range —

(Before entering the great Basin of the Co-
Review lumbia formed between the Cascade and
Rocky Mountain Ranges let us review
the various marked Botanical Regions we
have traversed — We have found in pro-
gressing from the Coast eastward that the
general character of the whole country is one
of forests. It may therefore be conveniently
distinguished as the Great Forest Region
Forests of the Columbia, and be divided into the
Coast Line, & Coast Region, extending to the
Coast summit of the Coast Range and the head of
tide water along the rivers — Next east of this
we meet with a succession of valleys which
Valleys I therefore call the Valley Region, and
this includes the subregions of River banks
Prairies and Prairies — The vegetable character of
the Valley Region extends nearly to the
summits of the Cascade Range, where
Alpine we meet with an approach to an Alpine ve-
getation. Hence eastward we shall find
an entire & complete change in the country
& its products. In traversing the various re-
gions described we have found a remark-
ably defined and natural limit to each —
and as far as known these limits are also
very distinct towards the north and south —
Occasionally sporadic groups of trees occur
out of their natural Region, but these are
so rare & scattered as to serve rather as
proofs of the rule than as exceptions)
(This to precede p. 20)

Limits of Forests

The Pine Forests of the Basin Slope
of the Cascade Mts, varies in width from
15 to 30 miles. It is confined wholly to
Forest the higher parts of the ridges sporadic
trees only occurring along the river banks
in the valleys — I account for this by the
greater amount of moisture required by
the tree than the scanty rains of the val-
leys afford. Storms frequently break
Storms over the high mountain tops while the
valleys are dry & parched for months to-
gether — Of this we had frequent proof du-
ring our short stay on the summit in Au-
gust having no less than 2 falls of rain
while the plain regions had been dry
for a long time before — And here as be-
Limit fore observed in other regions the edge
of forest is very abrupt and scarcely to
be noticed by any gradual diminution
in the ~~stature~~ growth of the trees. A somewhat
Oaks greater number of oaks occurs, but this
is found at all the openings & prairies.

The cause of this abruptness of the
limits of forest is probably a change
Soil in the soil, which had been sandy
ever since leaving the mountain tops
and, here becomes suddenly a barren
shingle of basaltic rock & fragments
over nearly the whole of the ridges, the
valleys however continuing to have a
(P.23 A) sandy & gravelly soil —
Southern range of Pine from Fremont)

Entrance on Plains

(If the sudden and entire changes of
vegetation have surprised us in our prog-
ress eastward hitherto; the total absence
of trees, and diversity of plants in the
Region we are now entering must be still
A more astonishing) As far as the eye can
View reach in this clear mountain air, & from
an elevation of over 3000 ft. above the sea
we behold nothing but an endless waste
apparently sloping downward from us in-
to a level plain, and bounded in the far
off horizon by dim blue cloudlike mountains
Far below us are some valleys marked
Valleys by a streak of what seem bushes through
their centre, which hide their water courses
while the great Columbia is hid only by
intervening ridges — The point from which
this view was visible is situated about
due East of Mt. Adams and 15 miles from
its base, where our trail came out after hav-
ing traversed the forest for 70 miles after
(P.25A) leaving the summit of the range —
B (The similarity of soil, scenery & vegetation
between this country and Utah was the
Utah first fact that struck me, and one that
I found confirmed by my whole tour
of 1000 miles through it. — Unfortunate-
ly the lateness of the season prevented a
large collection of plants but their gen-
eral similarity was quite evident)

Columbia Canon +

(A remarkable geological fact respecting
the Columbia River but one very
characteristic of the rivers throughout
this region, is that for 137 miles of its
course or that portion from its passage
"Canon" through the Cascade Mts. up to
its great bend at Walla Walla, it
flows, not through a valley but through
a "Canon" This may be compared to a
great crack in the solid basaltic "crust
of the Earth" though its real nature is
still undecided — We find however
that its effect on the vegetation is
very decided, for if we drop from the
lofty cliffs on each side, down to the
waters edge we find scarcely any
difference in that respect — In fact
the river can make scarcely any accumulations
of soil along its narrow
canal-like "Canon" the floods sweeping
Cliffs clean up to the foot of the cliffs
in many places, & allowing the growth
of nothing but willows & a few other
plants that can bear the inundation.
With a few intervals of level sandy
desert of no importance the river from
49th° Wallawalla up to the 49th° continues
to flow through canon & therefore no
special valley vegetation exists on
all its middle course of at least
400 miles.)

Valleys

(The case is different however with regard
to its smaller branches, and also
of those from which it arises itself)
A In our progress northward parallel to
Valley the Cascade Range we crossed eight
valleys through which tributaries flowed
— These had all a very similar appearance
and vegetation. They each
contain a succession of ancient lacustrine
Terraces terraces, varying some in soil according
to their heights above the present
water — Each terrace also varies
in its characteristic Plants. On the
highest & most gravelly we find the
Artemisia tridentata or "Wild Sage" a
Plants plant very extensively diffused through
the "Plains" — Lower will be thickets of
a Linosyris, and, higher scarcely anything
but Purshia or "Greasewood" —
The best soil being always lowest we
find along the bottoms a fine growth
of grass and many interesting plants —
On the edge of the stream only are what
Trees resemble trees but too much stunted to
be compared to the gigantic growth of
the Western forests. The species are few
a Poplar, several willows, scattered Pine
and rarely an Ash or Maple & oak. Of shrubs
Shrubs a Rose, Cherry, Poison Oak, Cornel are to
be seen & most of the species are different
from their analogues lower down —

Yakima River to —

On reaching the dividing ridge be-
47° lat. tween the Yakima & Wenatchee ri-
vers a new character of vegetation be-
gins to appear. The Pine of the wes-
tern slopes is mingled with a spe-
cies of Larch of which a few stunted
trees had been observed in crossing
Larix the range in lat. 46°. This tree is one
occident. of the most elegant of the forests
alis. — to which it belongs and proportion-
ately gigantic many appearing to be of
6 or 8 ft. diameter. Its tall smooth
reddish trunk, crowned by a symmet-
Descr. rical head of the lightest foliage,
& fading somewhat reminds one of the spruces
but has a paler hue & less dense branches.
This noble tree was a constant and a-
greeable companion in our northern ex-
Range plorations but nowhere exclusively
found. Of its height I know little —
but consider it the prevailing tree
north of Lat. 47° on the higher hills
and scattered along the river banks.
(The extreme lateness of the season
Oct. after reaching this point prevented my
making more than a very scanty col-
lection of plants. A few Artemisias
& other Compositae were the principal
species observed and the parched and
barren appearance of the soil gave but
the indication of what it would be in
the short & early season of flowers)

Okanagan River

Our route being following along the banks
Col. of the Columbia for 40 miles we found its
canon characteristic "Canon" fully developed.
Narrow strips of alluvial soil bordered
it alternately on either side, while as it ran
on its winding course it cut at intervals
steep escarpments in the solid granitic
rocks, along which our animals were led
with great toil & difficulty. But whenev-
er we ascended from its banks to the val-
leys above, especially near lake Chelan
we found the same grassy valleys, only
more fertile in appearance than southward.
Near Fort Okinagan there is a short in-
terval in the canon but only to give place
to what appeared to be a sandy desert —
Soil. though some vegetation exists & crops of
potatoes &c have been raised in small quan-
tities, and it is probable that some spots
will be found well suited for cultivation.
Our excursions through the valleys of the
Methow & Okinagan rivers showed us a
country much superior to that south of 48°
the hills being well covered with grass or
dense forests in about equal proportions —
The valleys also though sandy seemed
to be well adapted for grazing. I obser-
ved no trees here not before seen and
there was a remarkable deficiency of
game, or of animal life in any form the
Sharp tail Grouse being also scarce —

12½
2
14
11¾
40¼

Okanagan &c

The valley of the Okanagan River is perhaps the most extensive and fertile of any observed, and the water has a brown tinge rarely seen in the waters of this country and which indicates considerable stagnant & marshy tracts along its course — It also seemed to run slower than most other rivers and to be deeper — At about the 49th° it becomes surrounded by rugged & densely wooded mountains leaving scarcely any valley along its banks, and expands into a series of shallow marshy lakes — In these only

Lymnea Shells

I obtained several species of Lymnaidae & Naiadae shells which are scarce towards the south & west —

Crossing the divide east of this river an easy rolling mountain covered with grass we struck a small river near its sources & followed it down to the Columbia — The same diversified scenery prevails here and the forests are somewhat more confined to the river banks than the hills, an arrangement not observed on the mountains, but caused probably by the same influence the want of water — Here the Aspen

Populus

is a prevalent tree among the Larches and Pines —

Fort Colville

The Columbia at Fort Colville forms a more extensive & fertile valley than at any point seen below and has more of the character of the small branches hitherto passed through, but it soon enters the Cañon again in descending — Here I observed for the

Juniperus

first time a few Junipers resembling the common eastern species, and which were seen in small & scattered groups at a few other spots, appearing to be sporadic outposts of the species — From this Fort the fertile and picturesque appearance of the country continues to the Spokan River and the species of trees appear the same as in all the regions north of Lat. 47° —

We learn from the explorations of parties eastward that all its sources north of lat 49° have extensive & fertile valleys upon them somewhat similar to these — And it is remarkable that they all narrow into cañons before joining with the Columbia, so that their alluvial deposits are in great degree kept back within their own valleys and deposited there during their annual overflows, while but little is carried down in the great outlet of this Basin — and its banks are more & more barren as we descend towards the south —

Spokan R. to

Crossing the Spokan River we
entered immediately on the "Great
Columb- Plain of the Columbia," which
ian Basin though the lowest part of the Basin
in &c drained by that river is yet from
500 to 2000 feet above its level at Forts
Okanagan & Wallawalla. It is in
fact an elevated plateau — the summit
of an immense basaltic structure
through some of whose immense cracks
the Columbia has found a passage.
The soil is everywhere scanty, and
Soil the surface covered with fragments
of rock. In many places not a tree
is visible over the entire horizon, &
Trees the few growing along the water cour-
ses are Poplars & Willows with a few
scattered Pines. Here also the
peculiar vegetation of the Central
plains begins to prevail, the spe-
Shrubs cies of Artemisia, Purshia &c be-
ing the same as those of the Yakima.
The first running water met with
after passing several small alkaline
lakes is the Palouse River which
Palouse flows through the most rugged and
Cañon barren "Cañon" seen on the journey, ev-
idently a mere fissure of the rock
and continuing to deepen & grow steep-
er until it suddenly ends at Snake
or Lewis' Fork.

Ft. Wallawalla

Snake River where we struck it
presents the same forbidding and use-
less appearance as most of the upper
Columbia. Its narrow rocky cañon
Snake is even more extensive than on that
River river, so far as known presenting no
Cañon cultivable regions or navigable water
for at least 300 miles along its mouth.
Not a tree grows within a long distance
Trees and the only wood is what drifts down
from its upper branches.
Ascending from the banks of Snake
River, a remarkable & agreeable change
is at once visible. The rolling hills
are covered by a luxuriant growth of
Walla grass, increasing as we approach Wal-
walla la-walla valley. Here again is an
valley instance of the difference between
the country on the Columbia & its afflu-
ents. This river though small enough
to be forded near its mouth has on
its upper branches one of the most
fertile tracts in the Columbia basin
which as we descended it, changed
gradually into a ~~barren~~ alkaline san-
dy & rocky district which at its mouth
is the most barren & useless desert we
met with reminding me strongly of the
(P. 23 B.) deserts of Utah as described by Fremont.
Plants Here I first saw Fremontia and some
other species of plants of the desert.

Walla Walla to

At the mouth of the Wallawalla R.
the Columbia, with the immense addition
of Snake River which probably supplies
as much water as itself, again enters
a deep Canon which continues for 160
miles of its course downwards — Our journey
of four days along its banks to the
[illegible] Dalles, presented less interest & variety
than any previous part, the weather being
cold & both animals & vegetables scarcely
ever seen. I observed here however the
Celtis reticulata with its ripe sweet
Plants berries of a yellow color — the elegant
Cleome aurea & Linosyris graveolens —
with a few other plants still showing a
lingering flower. On the summit of the
precipice near Umatilla R. I noticed some
large evergreens which I was told were
Junipers. The gray wolf & Cayote, with
Animals a few large hares were all the quadrupeds
seen by the party and birds were as
scarce. Scattered spots only of very
small extent are tillable along this
part of the Columbia & the grazing is
poor. Many parts for miles presented
nothing but sandy or stony deserts —
Deserts on which the scanty vegetation gave
nothing eatable for cattle. The willows
along the edge of the water were the
only trees, & they so stunted as to be
of scarcely any use —

Fort Vancouver

At the Des Chutes River the mountain
vegetation begins to reappear the oaks
Oaks & being the first trees met with & in larger
Pines quantities than north of the Columbia.
About Fort Dalles the Pines become
suddenly abundant, with as marked a
limit as along the northern parts of the
Range — Poplars & other trees also appear
along the river banks.

Our journey down the river being performed
in December in the midst of fog & rain
did not allow of making the observations I
wished on the distribution of trees in this
mountain gap of 45 miles long. I observed
on reaching the Cascades that vegetation
appeared much less affected by frost than
Flowers at the Dalles & many spring flowers were already
blooming — The mild rainy climate
so strongly contrasted with the cold
Anim. dry weather that still prevailed east of
the Cascade Range, strike the traveller
at this season as the Great Cause of the
wonderful differences of vegetation —
It is almost as great a change as would
be felt on being magically transported
from the bleak bare shores of Labrador
to the blooming luxuriant forests of Florida,
& one can scarcely imagine that it
(To P 114) is all within a distance of fifty miles. —
(Here compare the climates of the two sides)
by the observations at various posts)

Animals of Wash. Ter.

The animals of Washington territory
though they are much less limited in
their range than the Plants still pre-
sent much of that peculiar local
character so observable in the [illegible] [illegible]
ern coast. The great variety of "Sta-
Stations tions" and of climate found in the
small limits of a few hundred, say, miles
square and requires a variety of ani-
mals peculiarly adapted to them;
while it becomes interesting to know
how far any single species may be-
come so adapted to these changes
as to exist under widely different
circumstances. It is well known
that domesticated animals such
as the dog, horse &c as well as many
kinds of can be acclimated to almost
any country, & though naturalists
are of late much inclined to under-
rate this power & to make each breed
variety in a state of nature a new spe-
cies, there is danger of carrying this
rule to an extreme in some cases, or
rather of making a rule what ought
to be considered rather exceptional.
It is perhaps safer to do so than to
admit as new species without good
proof what may in time be found
to be but local variations—

In my first report a few of the most
striking species belonging to each side
of the Cascade range were mentioned
but further researches have done
much to determine their limits as well
as to discover others interesting in their
habits structure and range. From
these observations it seems probable that
but few of the larger quadrupeds are
found on both sides of that range
while the small species are almost
entirely dissimilar. The Cougar found
Feli throughout America and almost entire-
concolor ly confined to wooded regions is very
L. abundant on the west side. The
rufus wild cat or small Lynx is also extremely
common and double numbers being kill-
ed annually near farm houses &c.
Lupus The wolves abundant in the open
plains & forests of the East side are
much less so in the west and are con-
gigas fined there to the few openings to
& be found – where they seem to be of two
Americ species only, the great wolf & the com-
mon American, the Coyotes being rare
if ever seen in the forest regions. The
[illegible] [illegible] would make a rather
[illegible] known even when [illegible]—
Foxes are also rare – I never saw or
heard of one being killed there—

Quadrupeds

Procyon lotor
Lutra Americana
Putorius Vison
Mustela Americana
Mephitis Americana
Phoca

The Raccoon, Otter, Mink, weasel & Skunk appear to me identical with the Eastern species, but being much more rarely seen, partly from their habits & partly from being less hunted [illegible] they are still undetermined — The Fisher I never saw and cannot [illegible] skins are rarely obtained by the natives — I also heard the [illegible] to the Dalles & other rivers to their [illegible] but never having obtained one I cannot tell the number of species to be found there —

Of smaller quadrupeds so far as they are known [illegible] few [illegible] which others are very limited in this territory at least — The

Sciurus Douglasii
Tamias Townsendi

Pine squirrel & Townsend's ground squirrel seem to differ but little in appearance or habits throughout the country, though there are slight variations of color which I am inclined to attribute to the various climates they inhabit, both being found from the sea to the edge of perpetual snow, wherever there are forests to supply food —

Castor fiber

The Beaver is abundant on all the streams and appears likely since it is not much hunted, having increased [illegible] lately —

Fiber zibethicus

Of the Muskrat I have never seen or heard any traces — & incline to believe it quite unknown on the western coast —

Aplodontia leporina

The "Sewellel" of Lewis & Clarke, one of the most interesting quadrupeds of the region & of which very little is known is according to Indians & others a very common animal in the river bottoms & prairies but I have never been able to obtain one though using every means in my power to do so — I however know its range from Puget's Sound south, along the coast to California [illegible] specimen obtained there proves to be a distinct species —

Neotoma occidentalis

A new Neotoma described on this coast presents several interesting points for comparison with its allies from other parts of America — It has so far only been found along the Columbia River west of the Cascades & near its mouth —

Muridae

Here again we have an instance of a very wide spread species in the white footed mouse, found abundantly over all the northern portions of the continent — Of the same kind several small species of field mice, shrews, moles, &c are all different from their eastern congeners as well as from those of California —

Birds

The Birds of Wash. Territory when
compared with those of the Atlantic
coast about the same latitudes
present many interesting phenomena.
Number 184 species are known to inhabit the
peculiar territory of which 80 are not found
east of the Mississippi as residents.
residents 59 are constant residents a much
larger proportion than in N.E. U.S. E. 40
summer 65 are only summer visitors and 40
passage only pass through in spring & fall —
The Turkey Buzzard & Fish Crow very
abundant here, rarely migrate north
winter of Long Island & are rare there —
which can only be accounted for by
the more equable through out clim-
ate of this coast ~~in~~ summer, while
for the same reason the delicate hum-
ming birds appear at the Straits of
De Fuca as early as the middle of
March & regularly winter in Califor-
nia. Two at least of the Warblers accom-
pany them while none brave the win-
ter of any Atlantic state.
There is also a little migration from
migration east to west of some of the resident
westward birds during winter, the coast
having a much milder climate
at that season, than either the val-
leys or interior Basin —

Migrations &c

Of the species peculiar to the coast 20
Analo- are representatives of Eastern species
gues not found here, while about 8 there
are additional species of genera com-
mon to both coasts, and 6 genera are
not represented in the Atlantic states.
Several land birds seem to be limited
Southern in their northern migration by the
Columbia River — stragglers only having
appeared on its banks — Townsend and
Nuttal found several species there which
have not been observed by later collectors
but are common in more southern regions —
They also enumerate as birds of Oregon
Eastern many which inhabit the countries east of
the Rocky Mts. and may extend across them
but only as occasional visitors —
Of northern species extending their mi-
grations into the territory there seem to be
few. The equability of the seasons on this
Northern coast extending at least to lat. 60° causes
the greater part of species are resident
and therefore confined to small limits.
The birds of Russian America seem to
form a very distinct group, of which I
did not meet with any during my re-
sidence — Of course the great family of
Anatidae common for the most part to
Water both coasts are excepted, the northern
species having a similar range south-
ward on each side —

1858

Birds described in notes after Feb. 13th
Cath. Calif — C. aura. C. atratus —
Pand. Haliaet. Hypot. Columb. Cir. Huds
Archib. lagopus. Buteo. lin. Cocc. Amer
Colap. Mex — Picus pileat. Pic. torquat
Pic. ruber. Cen. Carol. Pica Huds. G. Cana
Bomb. Carol. Sturn. Ludov. Agel. Phoe
Quis. Mex. Moloth. Pecor. Ict. Bullock
Pyran. Ludov. Coccoth. vesp. Curvirost. Amer
Chrysom. Pinus. Card. Virg — C. Psaltria
Linar. min. Spiz. amoen. Fring. Lincol —
Z. Towns. Z. aurocap. Z. leucoph. P. savan
Alaud. corn. Anth. Ludov. Turd. ustulatus —
T. minor? Cinc. Amer. Sial. occid. Sylvic
Sylv. Audub. S. nigresc. S. coronat & occid.
S. Bachm. Trich. Maril. T. Tolmiei —
Certh. Amer. Trogl. hyemal. T. Bewickii
T. Parkmanii. Selas. Rufus? Hirund. thalass —
H. rufa. Muscic. vertic. Tyrann. obscurus
Ortyx plumif. Charad. Vocif. Grus. Canad
Ardea Herod. Totan. macular. Fulic. Amer.
Lobip. Hyperb. Rallus Carol. Pod. Carol —
Pod. occid. P. cristatus. Phalac. dilophus
Uria Townsendii

1856.

Birds described in notes of Feb. 15th

Cath. Calif — C. Aura. C. atratus —
Pand. Haliaet. Hypot. Columb. Cir. Huds.
Archib. lagopus. Buteo. lin. Cocc. Amer.
Colap. Mex — Picus pileat. Pic. torquat.
Pic. ruber. Col. Cost. Pica Huds. C. Cana
Bomb. Carol. Sturn. Ludov. Agel. Phoen
Quis. Mex. Moloth. Pecor. Ict. Bullock
Pyran. Ludov. Cocoth. vesp. Curvir. Amer.
Carpod. Purpur. Card. Virg — C. Fasc.
Linar. min. Spiz. amer. Fring. Cind —
F. Towns. F. anneca. F. Leucoph. F. savan
Hirund. corn. Anth. Ludo. Turd. ustulatus —
T. minor? Cinc. Amer. Sial. occid. } Sylvic
Sylv. Audub. S. nigres. S. coronat. } occid.
S. Rathbon. Trich. Maril. T. Tolmiei —
Certh. Amer. Trogl. hyemal. T. Bewickii
Tetmonii. Selas. rufus! Hirund. thalass —
H. rufa. Muscic. vertic. Tetrao obscurus
Ortyx plumif. Charad. Helv. Grus. Canad
Ardea Herod. Totan. macular. Fulic. Amer.
Lobip. Hyperb. Rallus Carol. Pod. Carol —
Pod. occid. P. cristatus. Phalac. [illegible]
Uria Townsendii

Appendix 167

Forest trees of Columbia Region
Common to all the Regions west of the Cascade mountains down to the Sea.

Abies Douglasii A. Canadensis *
Thuja gigantea Acer macrophyllum
A. circinatum Alnus Oregona
Pyrus Rivularis Taxus occidentalis —
Sambucus Rubus Rhamnus Purshiana
*Abies grandis? Pinus [illegible] to [illegible] to 61°
Vaccinium ovatum & parvifolium
Peculiar to Coast Region tide water
Abies Menziesii (Pinus contorta) —
Myrica Californica, Vaccinium macrocarp.

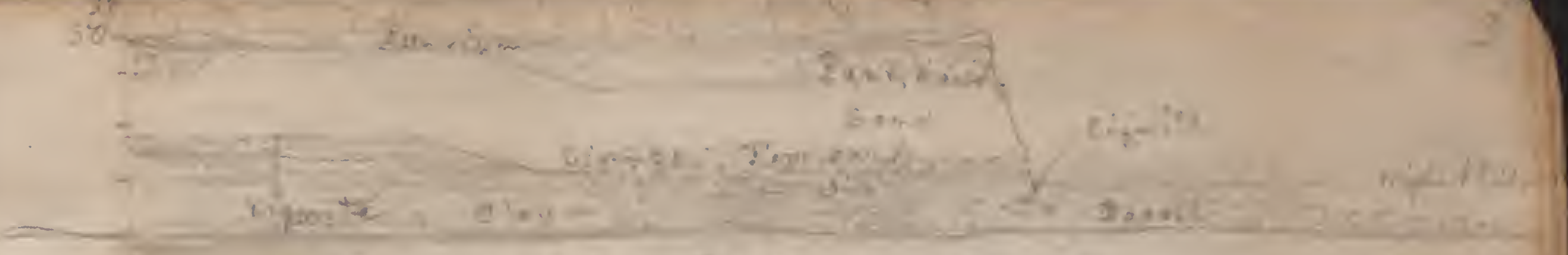
Peculiar to Archipelago of N.W.
Rhododendron maximum Shepherdia canadensis — Thuja plicata —

Peculiar to Columbia valley Region
Fraxinus Oregona Cornus Nuttalii
(Arbutus Menziesii) Crataegus sanguinea
Populus angustifolia Corylus Americana
Alnus rubra, Amelanchier sp. Spiraea 2 sp.
Vaccinium
Common to Valley & Basin slopes —
Quercus Garryana Populus balsamif—
Sambucus glauca P. tremuloides —

Peculiar to Cascade Range above 4000 ft.
Abies nobilis Pinus Strobus
Juniperus

Turdus [illegible] pr. certain to Basin slopes of Cascade
Spinus pinus [illegible] Sitta occidentalis
[illegible] Juniperus [illegible] Vireo?
[illegible] sanguinea [illegible]

Nov. 2nd Calif. Birds contd. from p. 13
/ √ Molothr. [illegible] 10½-[illegible] w/ pink B. blk. F. gra
4 / √ Lanius ludovic. 7-12 " brown B. & 4 [illegible]
" / √ Carpod. famil. 6-9½ " " B & Ft. brown
/ √ Chryso. [illegible] 6¾-7 " white " "
5th / √ Athene hypogaea 9½-25 " yellow B. brn. [illegible]
/ √ [illegible] 7¼-9¾ " brn. B. brn. & [illegible]
7th / √ Caprim. Nuttallii 8-17½ " " [illegible] F. [illegible]
/ √ Picus [illegible] 8¼-10½ " R. B. [illegible]
9th / √ Pica Nuttallii 17¼-22½ " B. [illegible] blk. [illegible]
10th √ [illegible] montan[us] 20½-57 " " blk. F. yell. [illegible]
√ Cooperi [illegible] 21½-37 " [illegible] " " " [illegible]
12th " √ [illegible] 9¾-14½ [illegible] F. 8-[illegible]
/ [illegible] √ [illegible] 8½-13½ " " " F. 8-13
19th / Carpod. frontalis √ m 8¼-10 [illegible] B. horn F. [illegible]
" √ 2 F. 6-9¾ [illegible] F. pale
23 / [illegible] √ Nuttalii 7½-13 [illegible] B. [illegible]
" / √ Falco Columb. 11¾-23½ " B. [illegible]
26 / √ [illegible] 6¾-12 " " " [illegible] blk. [illegible]
/ √ [illegible] 5¾-8½ " " B. blk. F. pale [illegible]
30 / Carpod. √ [illegible] 6¾-9¾ " " B. brn. [illegible]
" C. frontal. √ ? 6¾-9½ " " " horn F. dark [illegible]
" [illegible] √ 5¾-8⅞ " " " F. dark brn. [illegible]
/ 17 " √ " 5⅞-7¾ " " " " [illegible] F.



Section at Stony Pt. [illegible] p. 9. ——— [illegible]

The Region of [illegible] by [illegible]
[illegible] Vol. II page 225
[illegible] 1842
White [illegible] p. 46 & [illegible] II p. 179

Nov. Quadrupeds - Calif. Nov. 1855
1st √ Mephitis (2) - 10 tail & skull [illegible]
6 √ Lepus 13½ E. [illegible] Heel 3 Cubit 2 [illegible] Hind 3
" √ Spermophilus 10 tail to [illegible] 7 male [illegible]
10 √ [illegible] 5½ tail to end 4 [illegible]
16th √ Mus H 2¼ to T 9 Heel 1⅛ Cubit 2½ T [illegible] E 1-1¼
21 2 H 1¾ to T 4½ " 1 Hand ¼ T 4½ E ½-½ [illegible]
24 √ Felis H 3½ to T 27 " 6½ Shoulder 15½ [illegible] 15 tail 6
25 √ Mus H 2¼ to T 8½ T 8½ H 1¾ Cubit 2¼ F. [illegible] 1-1½
29 √ " " 2½ " " 9 " 8 Heel 1½ " 2¼ " " "
5

Nov. Birds seen in Calif. from p. 16
15 [illegible] [illegible] [illegible] Buteo [illegible]
[illegible] Troglodytes [illegible] & [illegible]

Columbian Coast

Part 2 page

(On approaching the coast anywhere north of the 42nd of Lat which is the boundary between Cal & Oregon the traveller is struck with the dense & dark growth of forest which covers the whole country [illegible] [illegible] a mountain [illegible] excepting the distant snow peaks [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] the edge of the salt water)

But as we near the beach we find there are a few open spots along the edge where the thick grass & bushes & flowers form a pleasing contrast to the gloomy forests of spruce and fir. The sands gradually accumulating along the shore are blown up by the prevailing [illegible] breezes of summer into ridges parallel to the water line & rising in height from 10 to 40 ft. with a width sometimes of 100 or 200 yds. In some parts, as at the Entrance Shoalwater & Grays harbors the sand hills are blown into very irregular & massive shapes resembling that [illegible] of the waves created by [illegible] winds at sea. As soon as the grass and other vegetation gets a hold upon them they cease to be affected by the winds and attain their permanent form.

[illegible] Veg.

p. 6. vide Coast Pa's

(Here we find the ground in places completely covered with the beach strawberry which ripens in Sept.) There are some plants which are the Pioneers in the vegetable process growing almost within the reach of the surf [illegible] [illegible] or others gradually [illegible] in [illegible]

Gen'l Remarks

If we land on these shores in the spring during May or June we will be at once interested by the great variety and brilliance of flowers which cover the ground. One arriving from the Atlantic coast is [illegible] but [illegible] [illegible] many forms [illegible] are identical with those of his own country, while many others are quite distinct at first sight and a careful observation with the assistance of a knowledge of botany will confirm [illegible] [illegible] [illegible] [illegible] [illegible] same. (This distinction of appearance will continue to accompany [illegible] [illegible] [illegible] of the interior and [illegible] many speculations on the Philosophy of specific distinctions in the influences of climate and other modifying causes. It affects not only plants but also animals, though in addition to these, and apparently with such want of uniformity [illegible], as to [illegible] [illegible] if it does not entirely upset our former opinion.)

some [illegible]

Pinus contorta

The first tree we meet — for it grows [illegible] on the edge of the banks where the high tides of winter [illegible] wash away many of them — is a species of Scrub Pine [illegible] Resembling that [illegible] [illegible] along the Atlantic border. It grows here only to the height of 20 or 30 ft and [illegible] though near the beach, but as we go into the interior we will find it occasionally forming groves about sandy prairies and becoming much larger, so as to [illegible] much [illegible] [illegible] [illegible] [illegible] where long, light & slender poles are needed —

Trees of the

Pine The brilliant green [illegible] of this tree is distinguishable at some distance among the sombre spruces with green [illegible]. It seems to be the first of the Conifers to locate itself on the sandy prairies of the coast and were it not for the annual fires made by the Indians which destroy large patches of it yearly, it would no doubt have entirely covered them.

Coast prairies (On no portion of the coast is the prairie more than three or four miles wide, the most extensive being the Clatsop plains extending south of the Columbia River. [illegible] only occurring among the patches of sandy deposit near the mouths of rivers and in the coves between [the] mountains and rocky bluffs that characterize the mountainous shores of the whole Pacific coast)

Abies Menziesii Among the Pines we may observe a few noble evergreen trees which resemble at a distance the common Black or Double Spruce of the eastern states. When young and in good soil it is a beautiful tree the branches very dense and the leaves very dark green and shining, their under surface [illegible] and pale so as to give a silvery hue to the foliage when turned up by the breeze. The bark is dark reddish like that of the Black cherry and scales off in the same manner. This Black Spruce as it is called here does not grow to the gigantic height of some other spruces, but is a very large tree, having frequently a diameter of 8 to 10 feet and shooting up its trunk without a branch for 100 feet

Coast Region

in the dark forests. It has more character and strength than most of the Spruces and is probably the best suited for masts and spars of any in the country. The roots are especially tough and [illegible] and [illegible] for boat [illegible] [illegible] it grows. The smaller fibres which spread for a long distance near the surface form one of the materials used by the Indians of the coast for their waterproof baskets and hats.

The Black Spruce is the prevailing forest tree near the sea from Cape Mendocino [illegible] to north of Cape Flattery and is confined to the vicinity of tide water, growing most luxuriant among the brackish marshes near the mouths of rivers and extending up the sides of the Coast hills to near their tops. A few stragglers only are found along the upper waters and it seems to require a degree of [illegible] since on the gravelly shores of Puget Sound it is not to be seen, but at the edge of the Straits of De Fuca, a few again appear along the very edge of the steep bluffs where they [illegible] [illegible] in the influence of those strong sea breezes which would kill most other trees, but which supply sufficient moisture to nourish them, in places otherwise arid for several months in the year.

Coast Region It may then be considered the characteristic tree of a large and well defined region which I have called "The Coast Region", limited on the west by the ocean and tidewater, on the east by the higher parts of the Coast Range.

Trees of the Coast Region —

In a forest of spruces, which make a dark & sombre shade we cannot expect to find many deciduous trees. It is then only in open spots along river banks, cliffs and about springs that we observe that lively pale green hue which marks them. Along the sandy beach in hollows where water stands in winter, we see thickets of willows of two species, one coming to the height of 20 feet the other little more than a shrub.

Salix

With these are groves of the great Oregon Alder, a fine tree much resembling the Beech in bark & foliage, sometimes 80 feet high, of fine grained soft white wood, suitable for furniture and carving. It is most abundant near the coast but extends eastward to the higher parts of the Cascade Mts, along river banks. It also grows up thickly in places where the Spruces have been burnt off and along the rivers it thus marks the sites of many an old Indian village by groves of an age corresponding to the time since the place was deserted. In such spots the ethnologist is almost certain to find relics of the ancient race, and often the soil is composed for a foot deep, of bones, shells, remnants of iron & other utensils which have accumulated about them—

Alnus Oregona

Commonly associated with the Alder is the "Vine Maple" aptly so called from its habit of growing half prostrate, the branches interlaced in the thickest confusion so as to form impenetrable thickets—

Acer circinatum —

This maple is somewhat like the Red or Swamp Maple of the Atlantic states in foliage but never grows more than a foot through at the stump, and forming no trunk. It is however fine grained hard and useful for many purposes. It is the only tree in the whole Region which assumes in autumn the brilliant orange & crimson tints so ornamental in the forests of Eastern America. The "sere & yellow leaf" prevails in all the other deciduous trees near the coast—

As we enter the mouths of rivers and come to their fresh water we begin to find scattered along the banks a beautiful tree, 50 to 80 feet high and 3 to 6 in diameter. This is the Broad-leaved or "Big Maple" called also "White" & "Curled" from the texture of its wood. It has the hue in bark & leaves of the Sugar Maple, but its immense leaves of half a foot in diameter at once distinguish it. In April it is covered with long pendant racemes of yellow flowers very different from the small and bright purple blossoms of the Vine Maple. Its wood is even superior to the Sugar Maple for furniture being more beautifully veined I think than any other wood and capable of a very fine polish. This tree grows scattered through the forests everywhere west of the Cascade Range, & seems to require some shade and much moisture to thrive. It extends from North California northward to the Straits of De Fuca and probably much farther

Acer macrophyllum

Birds not agg in W. T. Jan. 1855

Calif. Certh. Calif. (Nutt) C. atratus (Nutt) —
" Or. Buteo vulgaris? (Swainsonii?) (Gibbs)
(Buteo Sancti Johann. (Towns)
R.M. Aquila Chrysaetos "
" Or. Falco Polyagrus (Cass). (Suckley)
Surnia funerea (Aud) nyctea (Aud)
" ? Ulula Tengmalmi " (Towns)
Strix naevia (Towns) Str. purp. (Towns)
H. ~~[illegible]~~ " Psaria "
" C.R. Cypselus Vauxii " Muscic. Crinit. "
" M. Saya (Aud ") M. Phoebe? "
M. virens " ") M. acadica "
M. ruticilla? " ") White tail thrush? "
Myiod. Wilsonii " Sylv. striata Aud ?
Sylv. Towns. Aud " S. Occident " "
Helminth. celata " H. Rubricap. " ?
Trog. obsolet. T. Aedon? Parkmanii "
~~Regul. crist.~~ Cuvierii? Aud —
Sialia Wils.? Aud Arctica Towns —
" Orpheus montanus Towns. Turdus nanus "
T. minor? Wilsonii? aurocap.? — Towns.
Plectroph. ornatus (~~Towns~~ ?) E. nivalis T.
" Linar. borealis. ~~Cardinal. tricolor~~ Tirrelli
" " Garr. ultram. (cyanoceph.?) Lan. ludovic. "
" (Black white barred Woodpeck) (Red backed) "
Lagopus leucurus — (Ptarmigan?) "
" V.= Rallus Carolinus Char. marm. C. mont.
" Aphriza Towns. Haemat. Bach. & Towns.
Tringa semipalm. T. pusilla ~~Ap~~ ~~Townsend.~~
Phalarop. Wilsonii Tot. solit. T. semipalm.
" " Limosa fedoa Numen. longir. & borealis
" " Ardea nycticor. Ans. Canad. Bewickii "
Fulig. Rufitorq. Towns. mollis ~~[illegible]~~ —
Merg. albell.? " ~~Phalacrocor.~~ P. Townsendi
v.13.P.

Geog. limits of Birds &c

IIII IIII IIII Through this territory belong two three classes — 1st Resident 2 Summer visitors 3 Winter visitors — Of the first three are — 1 Buteo borealis - whole of N. Am. north of Mex — 2 Haliaetus leucoceph. has a similar range — 3 Circus cyaneus - ditto & Corvus [illegible] also?

IIII IIII IIII
IIII IIII IIII
60 pr —
Aline

Resident	Winter	Summer
5 [illegible] cinerea	Buteo lineatus ?	Cathartes aura
6 Bubo Virginianus	B. lagopus	Pandion haliaet.
7 Otus [illegible]	Ulula Acadica	Falco peregrinus
1 O. Americanus	[illegible] ludovicia	F. columbarius
4 Certh. familiaris	Linaria minor	F. sparverius
4 Troglo. Bewickii	Coccoth. vespertina	Astur Cooperi
Fring. hyemalis	Lanius borealis	Astur fuscus
2 [illegible] Sylvestris ×	Charad. Helveticus	Chordeiles Virg.
13 Parus atricapillus	Americana 5	Cypselus (Nutt)
14 Parus rufescens	Cygnus 2	Hirund. bicolor
15 Regulus Calendula	Anas acuta	H. fulva
16 Sialia Occidentalis	Fulig. Valisneria	H. rustica
17 Cinclus Americ. ×	Fulig. Marila	H. thalassina
18 Turdus migratorius	F. fusca	H. serripennis
19 Turdus naevius ?	F. perspicillata	Muscicapa Tyrannus
20 [illegible] ? ×	F. Americana	M. Cooperi
21 Alauda alpestris ×	F. Clangula	M. Traillii
22 [illegible] Oregonus	F. Albeola	M. pusilla
23 Fring. Townsendi	F. glacialis	M. minuta
24 [illegible]	Merg. Merganser	Sylvicola?
25 Pipilo Oregonus	Merg. cucullatus	Trog. Americ.
26 Carpod. purpureus ×	Pelecanus fuscus	Turdus ustulatus
27 Curvirost. Americana	Sterna	Fring. graminea
28 [illegible] ? ×	Mergulus	F. [illegible]
29 [illegible] Mexican. ×	Uria Townsendii	F. Savanna
30 Hirundo Ludov.		F. pusilla
31 Corvus Cacalot		F. socialis
		F. Canadensis?

Residents
Passer Americ.
[illegible]
Picus albolarvatus
Garrulus Stelleri
Nucifraga Columb.
Sitta pygmaea
[illegible]
Picus pileatus
P. [illegible]
P. Gairdnerii
P. ruber
P. Nuttallii
(Tetraoninae) 4?
[illegible]
Tringa americana
Limosa Hudsonica
Scolopax Wilsonii
Ardea Herodias.
Anas Boschas
Anas obscura
[illegible] discors
Anas clypeata
Fulig. [illegible]
Merg. Serrator
Phalacr. Dilophus
Larus [illegible]
Larus Occidental.
Uria grylle
[illegible]
[illegible] Imperialis
Ortyx Plumifera
[illegible] Townsendi
[illegible]
[illegible] frontalis
Ortyx Douglasii
Certhia familiaris

Estival – south.
[illegible] Californ.
Chaetura Vauxii
Muscic. verticalis
Muscic. Saya
Ptilogon. Townsend
Parus minimus
" septentr.
Orpheus montanus
~~[illegible]~~
Carpod. frontalis
Coccoth. melanocep.
[illegible] Gambelii
Icterus Bullockii
Estival north
× [illegible]
× [illegible] arctica
× [illegible] Pelagic.
[illegible] striatus
× Leucostic. tephrocot.
× " griseinuch.
~~[illegible] arctica~~ ?
× Saxic. oenanthe
Gym. cyanoceph.
Coccoth. ferreorost.
× Charad. montan.
× Doubtful species
Aquila Chrysaet.
Phalac. Townsend.
" [illegible]
Fulig. Stelleri
Sterna anglica ?
Larus canus ?
Larus marinus
Diomed. chlororhyn.
Thalass. [illegible]
Procell. gigantea

Summer
Spiza amoena
Carduelis [illegible]
Fring. leucophrys
F. Atricapilla
Pyranga Ludov.
[illegible] Bullockii ?
(Vireoninae)
Bombyc. Carolin.
Sitta Carolinens.
" Canadensis
Trochilus Colub.
Selasphor. [illegible]
Picus torquatus
Columb. fasciata
C. Carolinensis
Grus Americana
Charadr. vociferus
C. semipalmatus ×
Tringa alpina
T. Schinzii ×
T. [illegible] ×
Phal. fulicarius ×
Lobipes Wilsonii ×
Totanus [illegible]) ×
Totanus [illegible] ×
[illegible]
Anas Sponsa
A. Carolinensis
Larus Atricilla
[illegible] Townsendi
" occidental.
~~[illegible]~~
[illegible]
Pica Nuttallii
" Bullockii
Garr. ultramarin.

Quadrupeds Procured 1853

✓ Cervus macrotis male tip of nose to tip of tail 5 ft 8 in – tail 11 in – height at top of shoulders 3 ft at hip 3 ft 3 in [illegible]
June 6 ✓ Tamias [illegible] – [illegible] 2½ [illegible] – Male
✓ 10½ (tail 4) 3 " 3½ Female
July 4 ✓ Castor 3 tail 1–4⅛ in at base 3½ eye black.
Aug. 1st ✓ Shrew 3 " 2 [illegible]
" 13 ✓ Arvicola [illegible]
" 30 ✓ Tam. Towns. B 5 5/10 T 4.85 H [illegible] Male
✓ Scalops B 5¾ T ⅞ Palm [illegible] Fem.
Oct 9th 1856 } Tamias Lysteri } B 5¾ T 3¼ ~~H~~ 1¾ E ⅞ – ⅝ H 1¼
Orange N.J. }

[illegible]
✓ [illegible] 5½ [illegible]
✓ [illegible] 7½ [illegible]
Toxostoma rediv. 12–13 [illegible]
✓ " Californi. 12½–18¾ [illegible]
" Nuttallii? 7½–12 (12) [illegible]
✓ 9½–12¾
✓ [illegible] 9¼–15
✓ [illegible] fasciata 6½–7½ v. B. 2 [illegible]

Oct 6 – [illegible]
[illegible]
[illegible]

Birds

Procell. pacifica – [illegible] [illegible]
Phaleris cristatella [illegible]
[illegible] Podiceps [illegible] minor [illegible]
Icterus gubernator [illegible] Larus elegans ?
Coccoth. melanoceph. ? Cal. R. (Nutt) Coryth. [illegible]
Coccyzus Amer. ! Picus [illegible] (Carol. [illegible]) 10½ 17¾
Puffin. [illegible] N. W. C.
[illegible] fuscus – Anas cyanoptera S.

12

Jany Various things noticed —
Winter birds at Shoalwater Bay
Hal. leucoceph. Archibut. lagopus Circus Hud-
sonius, Astur cooperi? A. fuscus, Bubo Virg.
Brachyot. palust. Buteo borealis B. [illegible]
Certh. famil., Troglod. hyemal. T. Bewickii Parus
rufesc. P. atricap. Reg. Satrapa. R. Calendul.
Zon. [illegible] Z. [illegible] J. — ? Junco Oregon.
Fring. gutt. F. Townsendii [illegible]
[illegible], Amer. ossif. & Cacalott. Garr. Stell. & Ca-
nadensis Alcyon. Pic. Harr. P. pubescens — Col.
aur. Tetr. umb. Phas. Helo. Tringa Alpina in
T. alpina & Schinzii, Limosa Hudso. Num-
Ardea Herodias Scolop. [illegible] Ans. Hutch. A.
hyperb. A. nigr.? Bucephala acuta Fuligula
Valis. marila fusca, perspic. glacialis Mergus
cucul. Americ. Phalacro. dilophus. Larus
L. occid. Podiceps cristatus [illegible]
Mch 10 Birds seen at [illegible] [illegible] —
[illegible] [illegible] Picus Harr. [illegible]
Turd. [illegible] Turd. nævius. Garr. Canad. [illegible]
Stell. Corv. Cacalt. C. Amer. [illegible] —
[illegible] purpur. [illegible]
[illegible] Larus [illegible]
Picus ruber. [illegible]
Americ. A. [illegible]
[illegible] —
[illegible] [illegible]
" 17 At Port Townsend [illegible]
[illegible] Fring. Townsendii [illegible]
[illegible], Anser Hutch. [illegible] Fring.
[illegible] palust. T. hyemalis. T. Bewickii
" 18 Selasphorus Rufus, Parus [illegible]
" 22 [illegible] Circus cyaneus Grus Americana
" 25 Fring. leucophrys. F. [illegible] [illegible]
" 20 [illegible] — 1st [illegible]

13

Apr [illegible] [illegible] [illegible] [illegible]
[illegible] Townsendi — ? [illegible]
[illegible] [illegible] [illegible]
8th Colymb. Arctica in winter plumage —
12 Carpodacus purpureus — (? Aud. [illegible])
16 Spizella Socialis. Sylvic. [illegible] —
17 Pandion Haliaetus? Falco [illegible] —
20 Turdus nævius — ? [illegible] (ind)
21 [illegible] atricapilla Muscicapa pusilla
Troglodytes Aedon? or Americanus? —
May 10 Hirundo Thalassina
13th Vireo solitarius Tanagra ludovic. Ectopist. caroli-
[illegible] Fring. [illegible] P. graminea —
14th [illegible] Trich. Tolmiei [illegible]
[illegible] [illegible] Cathartes aura
23 Muscicapa Traillii Tyrannus & Cooperi —
25 Vireo olivac.
Jun. 1st Chordeiles Virginianus — Mus. [illegible]
" 7 Icterus Bullockii
" 19 [illegible] ? [illegible] —
July 20 [illegible] [illegible]

Eggs, nests, & fledged young

May 5 Fring. gutt. Y. 24th [illegible] Y [illegible]
28th [illegible] E. 10th Y — Spizella social. E.
June 5 Emp. minim. E. 14th do. Y. 16th [illegible] Y. [illegible]
" 8 [illegible] E. 10th Vireo [illegible] E.
" 10 [illegible] Amer. Y. 14th [illegible] Y
" 14 [illegible] E. [illegible] Y [illegible]
" 21 Turd. ustul. Y Spiza amœna N
" 22 [illegible] Y Colap. Mex. y. [illegible] y.
" 25 Spiza amœna E. Trichas Tolmiei Y
July 4th Trogl. hyemal. Y Turd. nævius Y?
" 13 [illegible] Y [illegible] N [illegible]
Sept. 1st [illegible] [illegible]. Chord. [illegible]
" 4 [illegible] 24th [illegible] [illegible]

Birds Cont. June 1855

June 25th Ampelis cedr. [illegible] 7½ – 9¾ [illegible]
[illegible] 3½ – 7 [illegible]
Certh. Amer. 5 – 7 [illegible] white
July 1st [illegible] 5¾ – 11½ [illegible]
[illegible] Canad. 11 – 17 [illegible] dark
21st [illegible] 34 – 43 [illegible]
Phal. [illegible] 28½ – 46 [illegible]
Aug 1 Falco columbarius 10¼ – 22½ [illegible]
Sept. 1 Tot. (no) 11 – 20½ [illegible]
" 4 Carduelis tristis 5 – 8½ [illegible]
10 Ardea Canadensis [illegible]
Oct 4th [illegible] 6 – 9½ [illegible]
" 5 Pelecan. fusc. 28 – 50½ [illegible]

[illegible] Observed in California [illegible]
6th [illegible]
19th [illegible]
[illegible]

22 Elanus leucurus 16½ – 41 [illegible]
Lanius [illegible] 9 – 12½ [illegible]
23 Buteo elegans 19½ – 41 [illegible]
[illegible] 7 – 11 [illegible]
[illegible] 4½ – 5½
P. Carol. Trich. Maria Sylvia [illegible] Ardea [illegible]
Grus Canad. Scol. Wilsonii [illegible]
24th [illegible] – 12½ [illegible]
[illegible] 6½ – 11¼ [illegible]
25th [illegible] 8 – 10½ [illegible]
Nov 9th ~~[illegible]~~ Cath. Calif. [illegible]

1855 – Birds

Jan 6 1 [illegible] 11 – 15¾ [illegible] hazel [illegible]
" " ([illegible] 10. not preserved)
" " [illegible] 1½ – 52 [illegible]
" 6 119 [illegible] 21 – 33 [illegible]
" " 120 [illegible] 11½ – 23 [illegible] head
" 9 [illegible] 20 – 49 [illegible]
[illegible]
[illegible]
[illegible]
" [illegible] Asturatricapil 121 122 [illegible]
" " [illegible] 24¾ – 34½ [illegible]
Feb. 14 1 [illegible] 24 – 57 [illegible] not pres.
Mar 13 1 [illegible] 9½ – 15¼ [illegible]
" " 1 [illegible] 9½ – 17½ [illegible]
" 15 1 [illegible] 25½ – 38½ [illegible]
" " [illegible] 26½ – 39 [illegible]
" " [illegible] 19 – 33 [illegible]
16 [illegible] 10½ – 18¾ [illegible]
17 [illegible] 8½ – 9½ [illegible]
[illegible] 8 – 13½ [illegible]
[illegible]
19 [illegible] 8¼ – 10½ [illegible]
[illegible] 11 – 16½ [illegible]
[illegible] 12½ – 17¾ [illegible]
[illegible] 15 [illegible]
[illegible]
26 [illegible] (13 – 21) 12¾ – 19 [illegible]
[illegible]
" 31 [illegible] 13 – 21½ [illegible]
[illegible] 8 – 11¾ [illegible]
[illegible] (7 – 10 & 7½ – 11) [illegible]
16 [illegible] 13 – 21 [illegible]
" 31 [illegible] 12 – 17¾ [illegible]

Birds cont—

Apr. 17th 1 Falco Cooperii 12½–27 [illegible] bill [illegible] bluish black. cere [illegible] yellow — F
19th Carpodacus purpureus M. 6⅞ (7.6) – 9½ – [illegible] bill pale [illegible] feet paler brown
1 Sphyrapicus [illegible] M. 5⅞ – 9¾ [illegible]
27th 1 [illegible] 14¼ – 23½ [illegible] blk [illegible]
[illegible] Pen. Red feet Cinnamon [illegible] claws [illegible]

Migratory Birds —

May 14th [illegible] Tolmiei [illegible] – 7¾ [illegible] blk. [illegible]
[illegible] 5¼ – 9 [illegible]
[illegible] 8½ [illegible] feet blk
[illegible] 6½ – 11½ [illegible] blk [illegible]
15th Spiza amoena 5⅞ – 8¾ " " [illegible]
[illegible] 10½ – 20½ [illegible]
23 [illegible] 4½ – 6¾ [illegible] blk [illegible]
24 [illegible] 5 – 7¼ [illegible]
26 [illegible] – 11¼ [illegible]
[illegible] 9 – 14 [illegible]
[illegible] 18 – 28 [illegible]
29th [illegible] 5½ – 8½ . brn [illegible] slate
[illegible] leucophrys 6¾ – 9¼ " " [illegible]
June 1st 2 [illegible] M. 10½ (¾) – 20½ (21) [illegible] feet gray
[illegible] M. 5 – 12¾ [illegible] blk. [illegible]
" 2. [illegible] 5½ – 8½ " " " "
" 4 [illegible] 9 – 15½ " " [illegible] F
Hirundo bicolor 6 – 12½ " " [illegible]
[illegible] 5¾ – 9½ " " [illegible]
[illegible] 8¾ – 15 " " [illegible]
[illegible] 10¾ – 20 [illegible] bill [illegible] gray
" 5 [illegible] 7½ – 12¾ [illegible]
Icterus Bullockii 7¾ – 12 " " [illegible] gray M
" 7 [illegible] 7½ [illegible] F
" 11 M. verticalis 8¾ – 15 [illegible] bill [illegible] feet black
" 17 " " 9½ – 19 " " Male

Shells & [illegible] specimens

Jan 4 Anatifa & Mytili from snag drifted in
" " Eggs of Periwinkle — small crab in alc. [illegible]
" 26 [illegible] fossil imperfect black
Feb. 25 Clay, sand, black & red iron sand with Gold
[illegible] — Bag of pebbles — [illegible]
[illegible] & Cedar 4 Clams Oysters [illegible]
[illegible] Mytili & birds [illegible]
[illegible] Wash — [illegible]
Plants collected by [illegible] —

Cornus Canadensis L.	Cornaceae	W wood
Impatiens fulva Nutt.	Balsaminaceae	Y. sweet—
Hydrophyllum macrophyllum Nutt.	[illegible]laceae	B.
Lonicera	[illegible]	Y
Solidago elongata Nutt.	Compositae	Y
Trientalis latifolia	Primulaceae	W.
Salvia officinalis	Labiatae	Pur
Phacelia circinata Jacq.	Hydrophyllaceae	W
Nuphar advena	Nelumbiaceae	Y
	Iridaceae	B.
[illegible]	Leguminosae	B.
Vaccinium macrocarpon Ait.	Ericaceae	W.Pk
Linnea borealis	" "	Ros
Ledum palustre	" "	W
Kalmia angustifolia	" "	Pk
Scutellaria lateriflora	Labiatae	Pur
[illegible]	Liliaceae	W
[illegible]		Y
	"	
	[illegible]	B.
Cornus [illegible]	[illegible]	W
Geum macrophyllum	Rosaceae	Y
Cirsium undulatum Spreng.	Compositae	Pu
Spiraea Douglasii	Rosaceae	W.
[illegible]		W

Coniferae of N. Trees

Abies "Red Fir" Douglasii 250–300 ft. stem often bare for 2/3 its height, bark rough & pale gray in general appearance like bark of Balsam — Wood middling — best of the firs for lumber and for firewood   2nd Region
Flowers in March male yellow fem. Red purp.

Abies "Spruce" Menziesii 100–200 ft. branching from the ground up, bark smooth & scaly dark brown resembling somewhat that of Larix — Wood coarse & shrinks much. Roots very tough & elastic used in basket making — Flowers in Apr. Male yellow Fem. rich purp. 1st region — Rises early & grows rapidly —

Abies "White Fir or Spruce" balsamea? 200–250 ft. stem very straight & branching nearly in circles whitish on old trunks becoming gray & tips shining dark. Leaves dark shining & unicolorate. Used chiefly for inferior sails & wood soft — Flowers in Apr. Male yellow Fem.
All regions in springy & shady woods —

Abies "Hemlock" Canadensis 100–200 ft. closely resembles A. Canadensis less straight & uniform than the preceding — branches irregular & low — Bark much like that of the Apple tree gray or brownish — nearly smooth & scaly — Flowers in March. Male red Fem. — Wood coarse of little value — Grows in 1 2 3 regions along streams & through woods

Abies ~~White~~ Spruce Yellow Fir — 200–300 ft. high 6 ft. through bark gray, ridged like Larix — branches irregular but short, top very narrow & long cylindrical, dense, dark green — Wood smooth splits well, & elastic, River

— additional notes —

== General form of tree conical branches drooping below horizontal at centre & converging towards top — Leaves surrounding the twigs but not thickly about 1 in long & Cones 3–4 in. by 2 in. rounded conical scales thin smooth imbricated with tripid bracts

== Form of tree broadly conical branches horizontal or drooping, leaves densely set on two sides in 3–4 rows stiff & glaucous below about ¾ in. long — Cones of numerous thin pointed oval scales cylindric conic — 3–4 in long — persistent — Twigs marked by old leaves — Roots as usual spreading on surface —

== Form of tree long cylindric conic — branches scattered & few appearing all the way up — Leaves in 1 series stiff & about 1–1¼ in. long — Cones deciduous, by the scales dropping off the long sharp axis which remains permanent Scales broad rounded & closely appressed — Cone oval obtuse smooth in clusters of 2–4 —

== Tree conical, branches long & drooping very gracefully, leaves in 1 series ½ in long scattered Cones ¾–1 in long scaly & of few oval scales growing on small twigs persistent —

Coniferae Continued

Abies Grand beautiful fir — amabilis

Cascade range near Snow line

Abies Mountain [illegible] — nobilis

West slope of Cascades at 6500 ft

Thuja Cedar — gigantea 100-250 ft. branches [illegible] the summit. Bark peeling off in strips. Wood very fine grained splits easily and not shrinking colorous? very durable. Trunk [illegible] the ground often [illegible] tree 20 ft in diameter [illegible] by a species of [illegible] not very good [illegible] — [illegible] white [illegible] brown & [illegible]. Foliage pale green & [illegible] Col. River & branches northward in 1-2 [illegible] — in spring [illegible]

23

1855 Plants

Mch	near Straits of de Fuca Port Townsend			
18th	Erythronium grandiflorum	Liliac	W ½	prair
	Peucedanum foeniculaceum Nutt	Umb.	Y 2 in	Prair
	Sisyrinchium grandiflorum Dougl.	Irid	Pu ½	"
	Saxifraga integrifolia Hk.	Saxifrag	W ½	"
	Abies Douglasii ♂♀	Coniferae	Y 300	wds
	Shepherdia Canadensis	Eleagn.	Br 5	banks
	* Whitty's Island			
" 21	Symplocarpus Kamchatcus	Aroid	Y 1	swamp
	Gamasia esculenta Linde.	Liliac	B ½	Pr's
	Abies Canadensis	Coniferae	R	wood
" 22	Taxus brevifolia Nutt.	"	Y 30	"
" "	Berberis aquifolium Ph.	Berberid.	Y 10	"
	" nervosa	"	" ½	"
	Draba nemoralis var B.	Cruciferae	" ½	Prair
	Dodecatheon Meadia	Primulac	Pu ½	"
" 23	Ribes sanguineum	Grossulac	Ros 8	wds
	Alnus Oregana Nutt		Br 40	"
	Salix		Y 20	"
	Cardamine oligosperma Nutt ~~Draba nemoralis Hook. B.~~	Cruciferae	W 3 in	Pr.
" 27	Nardosmia palmata	Compositae	W 1	banks
	Nuttallia cerasiformis T&G	Rosaceae	" 15	wds.
	Acer glabrum Torr. ♂	Aceraceae	Gr 20	banks
" 28	Viola Nuttallii Pursh	Violaceae	Y	Prair
30	~~Geranium Carolinianum~~	~~Geraniac~~	~~W 1~~	"
	Ranunculus occidentalis	Ranunc	Y 2	"
	Viola	Violacea	B ½	"
	Vaccinium ovalifolium	Ericaceae	Gr 10	wds
	Plectritis congesta	Valerianac	Pk ½	shrs
	Claytonia dichotoma	Portulacac	W	prairie
	Lithophragma parviflora Nutt-	Saxifrag	Pu 1	prairie
Mch 18	+ Collinsia parviflora Doug	Scroph	B. 1	"

Whitby's Island

Apr 3d	Abies		Y 250
	Crocidium multicaule Hkr	Composit	Y ¼ banks
	Equisetum		
5th	Fritillaria Kamschatcea	Liliaceae	Br P. wds
	Cerasus mollis Dougl.	Rosaceae	W 20 "
	Mimulus luteus W d.	Labiatae	Y 1 wet
(Mch 4)	~~[illegible]~~ Dentaria tenella Ph Hk	~~[illegible]~~	W ½ wds
	Salix	Salicaceae	W 10 "
	Amsinckia lycopsoides	Boraginaceae	Y ½ "
	Galium triflorum	Rubiaceae	W 1 "
"	Calypso borealis Salisb	Orchidaceae	Pu Br ½ "
	Calandrinia Menziesii	Caryophyllac	Pu ¼ banks
	Ribes divaricatus	Grossulac	Pu 10 wds
	Abies Menziesii	Coniferae	Rp 200 "
12th	Geum (Sieversia) triflorum Ph	Rosaceae	R P Prai
(Jany)	Vaccinium ovatum	Ericaceae	Pk 6 wds
	Vicia Oregona Nutt.	Leguminosae	Pu ½ Prai
	Castilleja pallida Kunth	Scrophul	Y 1 "
	Polemonium micranthum	Polemon.	W ½ "
	Cardamine hirsuta	Cruciferae	W 1 "
	Cerastium arvense L	Caryophyll	W 1 "
	Prosartes Hookeri Torr.	Liliaceae	W 2 "
	Carex teretiuscula	Cyperaceae	B 1 "
13th		Liliaceae	W 1 wds
	Arbutus Menziesii	Ericaceae	W 40 "
	Capsella Bursa Pastoris Moench.	Crucif.	W. 1. Inte.
	Rhododendron maximum	Ericaceae	Pk 30 wds
	Trientalis Europaea (var? latifolia)		W ⅓ "
17th	Castilleja	Scrophularia	Sc 2 ft "
	Claytonia alsinoides	Portulaceae	W pk "
	Vaccinium parvifolium	Ericaceae	Crp 10 "
	Collinsia grandiflora Doug	Labiatae	Pk ½ shore
	Cardamine oligosperma Nutt.	Crucif.	W 2 spring
	(Ribes lacustre Poir	Grossulaceae	Bc 4 wds

to Olympia

Apr 20th	Sanicula bipinnatifida Hkr	rare	Pu 1 prairie
	Sanicula Menziesii Hk et Arn	"	Y "
	Rumex	Polygonaceae	Ro ? pra
	Sagina procumbens	Caryophyllac	W ½ "
	~~Sisymbrium [illegible] Nutt~~	Crucif.	Y 1 ft pr's
	Zygadenus glaucus Nutt		W 1 "
		Cruciferae	" "
	Ranunculus recurvatus	Ranunculaceae	Y spring
	Delphinium Menziesii	"	
22	Claytonia dichotoma	Portulacaceae	W ¼ wet pr
	Xylosteum involucratum var	Caprifoliaceae	Y 6 "
	Vaccinium caespitosum	Ericaceae	Pk ½ "
25	Acer macrophyllum	Aceraceae	Y 60 wds
	Carex Scouleriana	Cyperaceae	" 2 marsh
	Dielytra formosa	Fumariaceae	Pu wds
	[illegible]		W 3 "
	Sambucus pubens	Caprifoliac.	W 10 "
26	Amelanchier Canadensis	Rosaceae	W 18 "
	Rubus Nutkanus	"	W 6 "
	" spectabilis	"	Pu 6 "
	Malva borealis Lin	Malvaceae	Pu shore
	Tellima grandiflora Ph	Saxifragac	W 2 wds
May 3	Acer circinatum	Aceraceae	Rp 3 wds
	Rubus ursinus	Rosaceae	W swamp
4	Valeriana capitata	Valerianaceae	Pk 2 wds
	Cornus Douglasii	Cornaceae	W 5 6 wds
	Achlys triphylla	Berberidaceae	W 2 wds
		Compositae	Y 1 pas
	Actaea arguta Nutt	Ranunculaceae	W wds

Misqually Plains

May
15th Potentilla gracilis Rosaceae Y 2 Pros twd
Compositae 2 " "
Myosotis verna Nutt. Boraginaceae B ½ "
Eritrichium fulvum A.D.C. frag " W not pr
Ranunculus aquatilis var. heterophyllus T&G W ¼ "
Calandrinia Menziesii Hkr Portulacaceae Pu "
Anoplanthus uniflorus Orobanchae ¼ "
Collomia grandiflora Polemoniaceae Pky "
Crocidium? Apr 3d Compositae Yl "
Sisyrinchium Iridaceae By "
Stellaria nitens Nutt. Caryophyllae W ½ "
Moehringia lateriflora " W ¼ "
Veronica Scrophularin W ¼ "
Lonicera occidentalis Caprifoliaceae Oy 20 wds
Poa annua L. (intr) Gramineae g ½ Pros
Ranunculus orthorhynchus Ranunc Y Pu 2 "
Ceanothus thyrsiflorus Esch Rhamnaceae W 4 pros.
Geum macrophyllum Rosaceae Y 2 wd
23d Cerasus demissa Nutt. " W 12 "
Macrorhynchus laciniatus Compos Y 1 pros
Linaria Canadensis Scrophular. B "
Claytonia Chamissonis Esch. Portulaca W ½ brk
Claytonia parviflora " W "
Rosa fraxinifolia Rosaceae Pa "
Fraxinus Oregona Nutt Oleaceae Gr wds.
Populus tremuloides Salicaceae " "
" angulata " " "
25 Quercus Garryana Nutt Cupulifer Pros.
Trifolium heterodon Leguminos 1 "
Ranunculus reptans Ranunculae Y "
Rubus macropetalus Dg Rosaceae W wd
Collinsia grandiflora Dg Scroph Pul prai
~~Mimulus floribundus Dg~~ " Y ½ wet
15th ~~Myosotis verna Nutt~~ Boragin W ½ prai
Eritrichium Chorisianum DC. " W ½ "

Misqually Plains cont.

May
26th Orthocarpus hispidus Dg Labiatae Wy 1 pro
Cornus pubescens Nutt. Cornaceae W 12 swmps
Rosa gymnocarpa Nutt Rosaceae R wd.
Glycosma occidentalis Nutt Umb. W "
Sanicula Menziesii Hkr & Arn. " Y 1½ pro
" bipinnata Hkr & Arn " Y 1 "
2 Peucedanum foeniculaceum Nutt " Y 2 "
Arabis hirsuta Scop. Crucif W wds
Mimulus floribundus Dougl. Labiat Y wet
Potentilla gracilis Dg Rosaceae Y pro
Trifolium microceph Leguminosae Pk "
Collomia gracilis Dg Polemoniaceae Pk "
28 Lupinus micranthus ~~Dougl~~ Legum Bl "
" var " Pk "
29 Gilia micrantha ~~Steud~~ Polemon Pu "
Lathyrus villosus T&G med. " Pu wds
30th " Pu pro
Erysimum asperum DC. Cruciferae Y 2ft "
Geranium Carolinianum Geraniac Pul "
Carex Cyperaceae do.
Spiraea Opulifolia L. Rosaceae W bnks
Symphoricarpus
Peucedanum leiocarpum Umbelliferae Y pro -
Edosmia Gairdneri H&A. " Wy "
~~[illegible]~~ Cruciferae W "
Chryseis Californica Hk
June 1 Oreophila myrtifolia Nutt Celastrac W wds
Pyrola dentata ? Ericaceae Pu "
Heuchera micrantha Saxifrag. W 1 "
Nemophila parviflora Hydrophyll Pk "
5 ~~Platanthera~~ leucostachys Orchidaceae W 4 swmp
Polygonum amphibium L. var aquaticum Polygon. R. lakes
Circaea [illegible] Onagraceae W wds
Specularia perfoliata Campanulac B 1 pros
26 ~~Collomia gracilis Polemoniac~~

Nisqually Plains and

June 11	Hosackia bicolor Dg	Leguminos	Y w y	wet
	Lathyrus palustris L.	"	Pu^{2}	wds
	" " var	"	dk r l	"
	Lupinus lepidus	" a fragrant	Pd	prair.
	" laxiflorus		pale Pu^{2}	"
	" polyphyllus ? Lindl	"	dark pur	wd.
	Trifolium elatum	"		prs
	" " var	"	pale	"
	" "	"	rose	"
	Psoralea physodes Dg.	"	Wy	"
	Nasturtium curvisiliqua Nutt.	Cruc.	Y 2	damp
	Heuchera cylindrica Doug.	Saxifragae	Gy^{3}	wds
	Epilobium minutum Lindl.	Onagrae	Pul	"
	Prunella vulgaris var	Labiatae	Pu	prs
	Campanula linifolia	Campanul	B 1	"
	Hesperoscordum hyacinthinum Lindl	Lil	Pu^{3}	"
	Bahia lanata Nutt.	Composita	Y	"
	Second of list ? species	Gramineae	Gr	prairie
12	Lathyrus polyphyllus Nutt	Legumin	Pu^{4}	wds
	Linnea borealis	Caprifoliaceae	Pk	"
	Symphoricarpus	?		
	Corallorhiza innata Br.	Orchidaceae	Pw 1	"
	Platanthera	"	Gr 1	"
	Juncus	Juncaceae	Br	wet
	Carex	Cyperaceae		
13	Lupinus lepidus	Leguminosa	Y^{3}	wds
	Hosackia decumbens Benth	"	Yr	Pr.
	Lathyrus palustris			
19	Antennaria plantaginifolia Hk	Composit	Y 2	prair.
	Macrorhynchus laciniatus	" var	" 2	"
	Oenothera minosa Lindl	Onagrae	Pu 1	"
	" Quadrivulnera Dg.	"	B R 2	"
	Hypericum Scouleri	Hypericae	Y 1	"
		Labiatae	Pk^{2}	"
	Eutoca Menziesii Benth	Hydroph	W	"

Upper Chehalis.

21st	Spirea Douglasii Hk	Rosaceae	Pk^{2}	wds
	" Menziesii	"	Pu^{5}	wet
	Stachys ciliata	Labiatae	"	"
	Sambucus glauca Nutt	Caprifol	W^{12}	pr
	Githopsis Specularioides Nutt	Campanul	V P ½	pr
	Heterocodon pariflorum Nutt	" "	P 1½	"
	Potentilla Norvegica L.	Rosaceae	Y ½	"
	Aquilegia Canadensis L.	Ranuncul	Ry^{3}	"
22	Alnus viridis DC (May 16th) fruit		Gr	wds.
25	Lilium Canadense	Liliaceae	Y^{5}	"
	Hosackia parviflora	Leguminosae	Pu 1	"
	Campanula Scouleri Hk	Campanulae	Bl ah	"
July	Philadelphus Gordonianus	Saxifragae	W 12	"
4th	Plantago Patagonica Jacq.	Plantaginae	Gr ½	Prair
	Gnaphalium purpureum L. var	Compos	Y 1	"
	Antennaria ~~[illegible]~~ Nutt. Plantaginifolia		Y 1	"
	Aster Douglasii	"	Pu 2	marsh
	Macrorhynchus laciniatus T&G.	"	Y 1	Prair
	~~Leucanthemum arcticum L.~~ Erigeron speciosum Dougl.	Compos "	Pu 2	"
	Navarretia heterophylla Hk	Campan	Pk ½	"
	Gilia Achilleaefolia Benth	Polemoniae	Bl ½	"
5th	Monotropa uniflora	Ericaceae	W 4	wds
	Sparganium Americanum	Cyperaceae	Br ½	"
	Asarum Hookeri	Aristoloch.	"	wds
	Balsamorhiza deltoidea Nutt	Compos	Y^{2}	wet
	"	Umbelliferae	W	"
	Plantago major	Plantaginae	Gr	field
	Heuchera micrantha	Saxifrageae	W	wds
	~~Polemonium micranthum~~	~~Polemoniae~~	~~B~~	~~pr~~
	Tolmiea Menziesii Ph.	Saxifragaceae	P	wds
	Tiarella trifoliata Linn	"	W	"
	Conioselinum Fischeri (anise)	Umbellif.	"	Prs
17th	Coinogyne ~~carnosa~~ (SWB)	Compositae	Y	sand
	Hydrophyllum capitatum Benth		W	wds
	Brodiaea grandiflora Sm		Pu	Prs

Shoalwater Bay

July
19th Drosera rotundifolia L. Droseraceae W sphag
Eriophorum vaginatum Cyperaceae } swamps
22d Oenothera biennis L. v. grandiflora V sandy
Sedum spathulaefolium Nutt. Crassul. " Rocks
29th Lolium temulentum Gramineae C. Cape D.
Conium maculatum Umbelliferae W S marsh
" var. " 8 "
~~Conioselinum Fischeri Wim & Grab~~ " W marsh

Sept. 1st Goodyera pubescens Orchidaceae W wods.
" 10 Conioselinum Fischeri Wim & Grab Umb. W marsh

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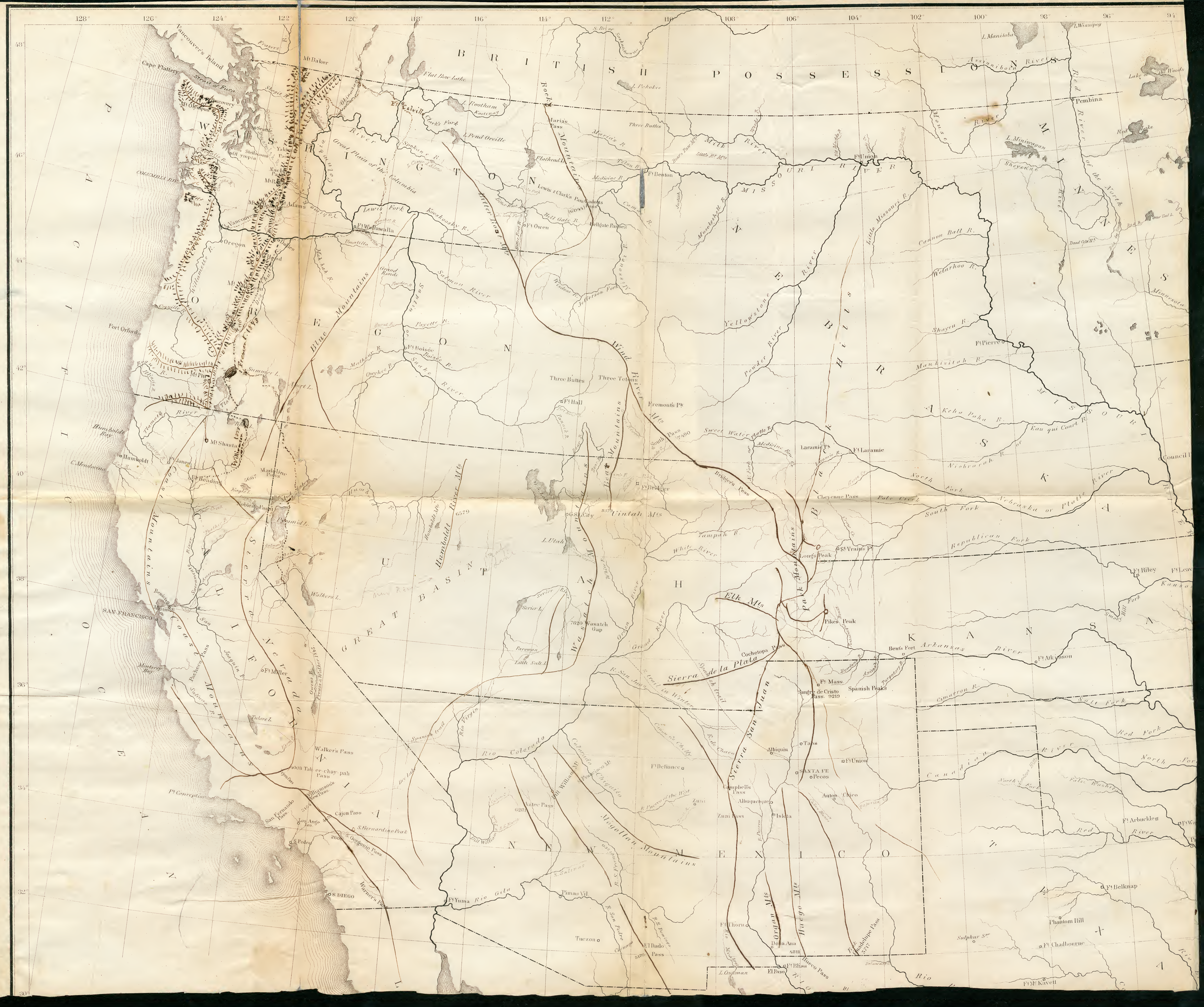
from May & June } a Alopecurus geniculatus Muhl. Gr 2. wett
" aristulatus ?
Hordeum pratense Kunth - " dry
Aira elongata Hkr - " "
Koeleria cristata Smith "
Ceratochloa breviaristata Hkr -
Festuca
Panicum
Polypogon
Juncus
Luzula
Cyperus
Scirpus

1856
Aug
30th 1 Robin 9-15¼ I. ben. bill black tinged with yellow below. feet brown black V
Oct. 9th Cucul. ~~Erythroph~~ 11-13½ I. Red B. bk ft. gr.

Ro
42
N



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44°
42°
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38°
36°
34°
32°
30°
B R I T I S H P O S S E S S I O N S
Vancouver's Island
Cape Flattery
Strait of Fuca
Frasers
Mt Baker
Ft Olympia
Olympia
Steilacoom
Seattle
Yakima Pass
Naches Pass
Mt Rainier
Mt St Helens
Mt Adams
Vancouver
COLUMBIA RIVER
Oregon
Mt Hood
Willamette R.
Port Orford
Mt Pitt
Klamath R.
Humboldt Bay
Humboldt
C. Mendocino
Mt Shasta
Ft Jones
Ft Reading
Madeline Pass
Noble's Pass
Pyramid L.
Walkers L.
SAN FRANCISCO
Monterey Bay
Pacheco Pass
Ft Miller
Tulare L.
Walker's Pass
Tah-ee-chay-pah Pass
Williamson's New Pass
Pt Conception
San Fernando Pass
Los Angeles
Cajon Pass
S. Bernardino Peak
S. Gorgonio Pass
S. Pedro
S. DIEGO
Warner's Pass
Ft Yuma
Rio Gila
Pimas Vil
Tucson
Ft Dado Pass
P A C I F I C O C E A N
W A S H I N G T O N
O R E G O N
C A L I F O R N I A
U T A H
N E W M E X I C O
N E B R A S K A
K A N S A S
M I N N E S O T A
T E X A S
Coast Mountains
Sierra Nevada
Cascade Mountains
Blue Mountains
Great Plain of the Columbia
Columbia River
Lewis Fork
Ft Wallawalla
Umatilla
Grand Ronde
Salmon River
Snake River
Ft Boisée
Payette R.
Malheur R.
Owyhee R.
Ft Hall
Three Buttes
Three Tetons
Fremont's Pk
Wind River Mts
South Pass 7490
Sweet Water
Bitter Root Mts
Rocky Mountains
Flathead L.
Ft Owen
Hell Gate R.
Lewis & Clark's Pass
Cadotts Pass
Deer Lodge Pass
Marias Pass
Ft Colvile
Clark's Fork
L. Pend Oreille
Spokane R.
Flat Bow Lake
Kootenay R.
Ft Benton
Teton R.
Marias R.
Milk River
Three Buttes
Ft Union
MISSOURI RIVER
Yellowstone River
Powder River
Big Horn R.
Musselshell R.
Little Missouri R.
Cannon Ball R.
Wetarhoo R.
Shayen R.
Ft Pierre
Mankizitah R.
Keha Paha R.
Eau qui Court R.
Niobrarah R.
Black Hills
Ft Laramie
Laramie Pk
North Fork
South Fork
Nebraska or Platte River
Cheyenne Pass
Pole Creek
Bridger's Pass
Ft Bridger
Uintah Mts
Bear River Mts
G. S. L. City
L. Utah
Wasatch Mts
7820 Wasatch Gap
Sevier L.
Sevier River
Parowan
Little Salt L.
Green River
Grand River
White River
Yampah R.
Humboldt River Mts
Humboldt R.
GREAT BASIN
Long's Peak
St Vrains Ft
Park Mountains
Elk Mts
Pikes Peak
Cochetopa Pass
Sierra de la Plata
Sierra San Juan
Ft Mass.
Sangre de Cristo Pass 9219
Spanish Peaks
Bents Fort
Arkansas River
Ft Atkinson
Ft Riley
Republican Fork
Smoky Hill Fork
Kansas
Cimarron R.
Salt Fork
Red Fork
North Fork
Canadian River
False Washita
Red River
Ft Arbuckle
Ft Washita
Ft Belknap
Phantom Hill
Ft Chadbourne
Sulphur Spr
Ft McKavett
Rio Colorado
Rio Virgen
Spanish trail
R. San Juan
Taos
Albiquiu
SANTA FE
Pecos
Ft Union
Anton Chico
Campbell's Pass
Albuquerque
Isleta
Zuni Pass
Zuni
Ft Defiance
Canon de Chelly
Colorado Chiquito
S. Francisco Mt
Bill Williams Mt
Aztec Pass
Mogollon Mountains
Organ Mts
Hueco Mts
Guadalupe Pass
Dona Ana
Ft Thorn
Ft Fillmore
Ft Bliss
El Paso
Hueco Pass
L. Guzman
Rio Grande
Rio Pecos
Pembina
L. Winnipeg
L. Manitoba
Assinniboin River
Mouse River
L. Miniwakan
Sheyenne R.
Red River of the North
Lake of the Woods
Red Lake
Council Bluffs
Minnesota

Dr Wm O. Ayer Con-to= Cal. Acad
Nat. Sci.
[illegible] Lyon Sells [illegible] 1 lb [illegible] 1.96
[illegible] Ferry [illegible] 6.00 1C [illegible] 3.25
25 [illegible] Astoria 4.50
Fee 50.00 [illegible] 10 [illegible] 3.50 [illegible]
[illegible] 12 for [illegible] $10 [illegible] 1.00 [illegible] 50 — 5 —
" " Coat 16 Pants 7 Vest 3 Cam[illegible] 1½ [illegible] 3.75
[illegible] 2 Socks 1 [illegible] 2 [illegible] 1 [illegible] 1½
Board Lodging $13. Lodging days 8 — $8.
" 18 Fare to S.C. 3.00 [illegible] .50 [illegible] 90
" 21 [illegible] $1.50 (Boots) Fare 2
Nov 14 [illegible] " 15.00 Washing 2.50 Sund. 2.50
Dec 1st Stage 4 Meals 7 Tickets 1.50 Hdkfs 1.50
" 2 [illegible] 7.00 " 1.50 [illegible] $2.15 [illegible]
" 10 [illegible] 1.50 [illegible] 2.50 Board to $21.00
" 21 Coat 2.00 Shells 4.00 Board 12.00 [illegible]
Jan 2 Board 12.00 [illegible] 7.00 Dinner 1.00
Dec 3 Coins 2.00 [illegible] 1C [illegible] 1.50 [illegible] .50 = 4.00

[illegible] 12 By [illegible] Bill $200.00
" " Clothing 58.50
Board & Lodging 10 days 21.00
" to 28 [illegible] 5.00 Board 10.00 15.00
[illegible] Board [illegible] 26.00
[illegible] " [illegible] 7.50 Stage [illegible] 1.60 17.00
187.50 132.50
" 3 Recd from W. C. 400.00
" 3 [illegible] Gist 467.50 275.00 + 12
" 5 On hand [illegible] 180.00 [illegible] 6.00
" 29 Clothing 7.00 [illegible] 1.00 8.00 [illegible]
Jan 3 Shells 2.50 Board 13 & 22.50 27.50 + 2
[illegible] 8.00 [illegible] 24.50 12.50
" 10 [illegible] 10.00 On hand 120.00 47.00
1858 122.00

D. Dayard (D) Tagg [illegible]

75 $3 1/2
15 X 50 1/2
5 292 +
155 200
2.50 18
136.50
200.00
64.50

2000.00
56.50

146 2.50
1.60
90
25.00
42.40
1 20
1 83

125
25
189.51
42.50
142.00
108
218
43
180.20
43.50
136.51
467 13.206
21 1.450
192.00

May 15th partial eclipse of Sun visible 405 miles NE of Astoria

Oct 24th total eclipse of Moon visible in U. St. & Cana[illegible]